



Congress Venue by night

IUTAM

INTERNATIONAL UNION OF
THEORETICAL AND APPLIED
MECHANICS



**21st INTERNATIONAL
CONGRESS OF
THEORETICAL AND APPLIED
MECHANICS**

August 15-21, 2004
Warsaw, Poland

*The Congress is held under the patronage of
the President of Republic of Poland
Aleksander Kwaśniewski*

FINAL PROGRAMME

<http://ictam04.ippt.gov.pl>

Foreword

The 21st International Congress of Theoretical and Applied Mechanics was invited to be held in Warsaw by the:

- **Polish National Committee of IUTAM**
- **Institute of Fundamental Technological Research of the Polish Academy of Sciences**
- **Warsaw University of Technology**

The scientific program consists of 38 plenary lectures (50min) and 1364 contributed presentations in lecture sessions (15min) and seminar sessions (5min oral presentation and discussion by posters). The congress venue is the main building of Warsaw University of Technology (Politechnika Warszawska).

It is our great pleasure to welcome you to this IUTAM Congress and to the city of Warsaw. The central goal in organizing the Congress every four years is to stimulate interactions of contemporary mechanics with many fields of science and technology. We hope that you will find this forum inspiring both for the scientific interactions and informal discussions. The meeting should lead to more cooperation and collaboration within our scientific community. These goals are hopefully attained by combining cooperation and expertise from different research groups, which otherwise, perhaps would never meet in our atomised, *always in rush*, scientific world.

Have a nice stay in Warsaw!

On behalf of the Local Organizing Committee

Witold Gutkowski
Tomasz Kowalewski

Special Notes

Congress Badges

All participants are requested to wear their congress badges throughout the Congress. Refreshments will be served free of charge only to identifiable Congress participants during morning and afternoon breaks.

Lunches

Lunch boxes will be served Monday to Friday in the specially indicated internal patios, behind the Main Aula. Participants are provided with lunch vouchers.

Free Shuttle Bus

Limited shuttle bus services will be provided by PCO Mazurkas Travel from few hotels. Check service availability and time schedule in your hotel.

Exhibition

An exhibition will be held from Monday until Friday in the Mala Aula (room 237). A wide variety of exhibitors will demonstrate hardware, software, and books from 10:00 until the end of sessions.

Proceedings

A hard-cover book of *Proceedings* will be published by **Kluwer Academic Publishers**, The Netherlands, following the Congress. It will contain the text of the Opening and Closing Lectures, the Sectional Lectures, the Introductory Lectures for the Mini-Symposia, a list of the titles and authors of all contributed papers presented at the Congress (but not the abstracts), a list of all participants at ICTAM04, and a general report on the Congress. Registered participants who ordered copies of the *Proceedings* will receive them by post directly from Kluwer Academic by beginning of year 2005.

IUTAM Bureau Prizes

Three prizes, each consisting of \$500, a certificate, and a trophy, will be awarded by the IUTAM Bureau for outstanding presentations by younger scientists. The winners will be announced at the Closing Ceremony of the Congress.

Messages/Internet

An Internet room with 12 free personal computers and switch with several additional Ethernet connectors for portables (DHCP) is available in the Library room. In addition wireless Internet is provided by Era GSM inside the building. If you need to be contacted during the Congress, please note of the telephone/fax number and the e-mail address given below:

Phone: +48-22- 6607152; Fax: +48-22- 6607151; E-mail: ictam04@ippt.gov.pl

21st INTERNATIONAL CONGRESS OF THEORETICAL AND APPLIED MECHANICS

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Scientific Programme

Format of the Congress

There are two General Lectures (an Opening and a Closing Lecture), and eighteen invited Sectional Lectures of a more specialized nature. Within the framework of the Congress, Mini-Symposia are arranged in six topics. Three invited Introductory Lectures are scheduled for each Mini-Symposium. The contributed papers are presented in Lecture Sessions and in Seminar Presentation Sessions covering 65 topics selected for pre-nominated sessions and for Mini-Symposia.

Invited Lectures

All Invited Lectures are organized in six parallel sessions. Their presentation is limited to 50 minutes plus an additional 10 minutes for discussion.

Lecture Sessions

Lecture presentations are organized in fourteen parallel sessions. The presentations are limited to **15 minutes plus an additional 5 minutes for discussion and room changes**. Since the attendees must have the option to select a sequence of lectures that are given in different locations of the building, it is imperative to leave them the opportunity to use the 5 minutes discussion time for such changes.

Each lecture will start promptly at the time given in the sequel by a computer scheduler. The presentation may not exceed the time pre-programmed for its termination. To ensure a perfect synchronization between the parallel sessions, chairpersons will strictly enforce the time allocation. A computer clock will remain present on the screen of each lecture room interrupting each presentation after 15 minutes. For special requirements regarding the audiovisual equipment (eg. projection of 35mm slides), please contact the Conference Desk the day before. **All speakers are requested to contact their chairperson at least 30 minutes before the start of the session.**

Seminar Presentation Sessions

A seminar presentation provides an alternate and intimate forum for the presentation of scientific papers and for the two-way exchange of ideas. Seminar presentations are given in 32 parallel sessions on Tuesday and Thursday. In a seminar presentation, author(s) of each paper are assigned a poster board on which they can mount their posters. Oral summaries of the posters are given in 32 locations during first hour of the Seminar Presentation Session (14:30 - 15:30). **Each author will be called upon to present a brief (5 minutes) summary**, which focus on the purpose of their work and conclusions. **Authors should bring a maximum of three transparencies** for use in providing their summary. The chairperson will stimulate and control discussion, and will control the timing. All presentations must be terminated during the first hour. It means that the time available for single presentation may slightly vary depending on number of presentations. After the first hour, **at 15:30 all authors are requested to terminate their oral presentations and to attend their poster panels**. Poster panels are located in the vicinity of the oral presentation place. Panels are 95cm wide and 240cm high, and posters can be attached to them using removable glue provided by organizers. Portable computers can be used beside poster panels to enhance poster presentation (e.g. demonstrate movies). The poster may be mounted all day from 9:00, but not later than at 14:00, on the day on which the presentation is scheduled (Tuesday and Thursday), and must be removed before 18:00 the same day.

Paper Identification Code

All papers have been assigned a unique paper identification code using letters and numbers denoting appropriate session code, presentation type, presenting author's ID. Following codes are used to mark sessions:

Opening and Closing Lectures	- OL, CL
Sectional Lectures	- SL
Mini-Symposia	- MS
Pre-nominated Sessions	
Fluid Mechanics	- FM
Solid Mechanics	- SM
Topics involving both	- FSM

Presentation types are: Invited (I), Lecture (L) and Seminar (S).

The lecture rooms are numbered using three digits. The first digit indicates floor, from ground floor to the third floor. Location of the lecture rooms, places for seminar presentation and poster stands are indicated for each floor on schematic plans enclosed in the booklet.

Lecture rooms used for **Lecture Presentations** are numbered as: **000 (Main Aula), 123, 124, 134, 144, 206, 208, 213, 219, 226, 231, 306, 309, 315, 327**. Lecture rooms are equipped with the computer and overhead projectors.

Seminar Presentations will be given in the above lecture rooms and in 18 additional rooms and external spots (corridors). They are numbered as: **000A, 000B, 000C, 000D, 123, 124, 134, 134A, 134B, 144, 160, 206, 208, 213, 215, 219, 219A, 226, 231, 237A, 304, 305A, 305, 306, 307A, 307, 308A, 308, 309, 315A, 315, 327**. Seminar presentation locations are equipped with an overhead projector only.

Poster panels are located usually in the vicinity of the oral presentation spot and marked accordingly to the seminar presentation places, e.g. **P000A, P000B, P219** etc.

Topic Codes

Mini Symposia

- MS1** Smart materials and structures
- MS2** Tissue, cellular and molecular biomechanics
- MS3** Mechanics of thin films and nanostructures
- MS4** Microfluids
- MS5** Microgravity flow phenomena
- MS6** Atmosphere and ocean dynamics

Pre-Nominated Sessions

Fluid Mechanics

- FM1** Biological fluid dynamics
- FM2** Boundary layers
- FM3** Combustion and flames
- FM4** Complex and smart fluids
- FM5** Compressible flow
- FM6** Computational fluid dynamics
- FM7** Convective phenomena
- FM8** Drops and bubbles
- FM9** Environmental fluid dynamics
- FM10** Experimental methods in fluid mechanics
- FM11** Flow control
- FM12** Flow in porous media
- FM13** Flow instability and transition
- FM14** Flow in thin films
- FM15** Fluid mechanics of materials processing
- FM16** Fluid mechanics of suspension
- FM17** Granular flows
- FM18** Low-Reynolds-number flow
- FM19** Magnetohydrodynamics
- FM20** Multiphase flows
- FM21** Solidification and crystal growth
- FM22** Stirring and mixing
- FM23** Topological fluid mechanics
- FM24** Turbulence
- FM25** Vortex dynamics
- FM26** Waves

Solid Mechanics

- SM1** Computational solid mechanics
- SM2** Contact and friction mechanics
- SM3** Control of structures
- SM4** Damage mechanics
- SM5** Dynamic plasticity of structures
- SM6** Elasticity
- SM7** Experimental methods in solid mechanics
- SM8** Fatigue
- SM9** Fracture and crack mechanics
- SM10** Functionally graded materials
- SM11** Impact and wave propagation
- SM12** Material instabilities
- SM13** Mechanics of composites
- SM14** Mechanics of phase transformations (jointly with IACM)
- SM15** Mechanics of porous materials
- SM16** Mechatronics
- SM17** Multibody dynamics
- SM18** Plasticity and viscoplasticity
- SM19** Plates and shells
- SM20** Rock mechanics and geomechanics
- SM21** Solid mechanics in manufacturing
- SM22** Stability of structures
- SM23** Stochastic micromechanics
- SM24** Structural optimization
- SM25** Structural vibrations
- SM26** Vehicle dynamics
- SM27** Viscoelasticity and creep

Topics involving both fluid mechanics and solid mechanics

- FSM1** Acoustics
- FSM2** Chaos in fluid and solid mechanics
- FSM3** Continuum mechanics
- FSM4** Fluid-structure interaction
- FSM5** Mechanics of foams and cellular materials
- FSM6** Multiscale phenomena in mechanics
- FSM7** Education in mechanics

ICTAM 2004 Program at a Glance

Sunday, 15 August

15:00 - 18:00 Registration

18:00 – 21:00 Get-together Party

Monday, 16 August

08:00 – 10:00 Registration

10:00 – 11:00 Opening Ceremony

11:00 – 12:00 Opening Lecture

Leen van Wijngaarden

Presiding: Hassan Aref & Michal Kleiber

12:00 – 13:30 Lunch

13:30 – 15:30 Mini-Symposia Introductory Lectures (room)

MS6__I1 *Atmosphere and ocean dynamics* (134)

MS1__I1 *Smart materials and structures* (208)

MS3__I1 *Mechanics of thin films and nanostructures* (219)

MS4__I1 *Microfluids* (306)

MS2__I1 *Tissue, cellular and molecular biomechanics* (309)

MS5__I1 *Microgravity flow phenomena* (315)

15:30 – 16:00 Break

16:00 – 18:00 Lecture Sessions

FM21_L1 *Solidification and crystal growth* (123)

FM16_L1 *Fluid mechanics of suspension* (124)

MS6__L1 *Atmosphere and ocean dynamics* (134)

FM4__L1 *Complex and smart fluids* (144)

SM6__L1 *Elasticity* (206)

MS1__L1 *Smart materials and structures* (208)

SM3__L1 *Control of structures* (213)

MS3__L1 *Mechanics of thin films and nanostructures* (219)

SM19_L1 *Plates and shells* (226)

SM4__L1 *Damage mechanics* (231)

MS4__L1 *Microfluids* (306)

MS2__L1 *Tissue, cellular and molecular biomechanics* (309)

MS5__L1 *Microgravity flow phenomena* (315)

FM6__L1 *Computational fluid dynamics* (327)

19:00 – 22:00 Welcome Reception

Tuesday, 17 August

8:30 – 9:30 Mini-Symposia Introductory Lectures

MS6__I2	<i>Atmosphere and ocean dynamics</i>	(134)
MS1__I2	<i>Smart materials and structures</i>	(208)
MS3__I2	<i>Mechanics of thin films and nanostructures</i>	(219)
MS4__I2	<i>Microfluids</i>	(306)
MS2__I2	<i>Tissue, cellular and molecular biomechanics</i>	(309)
MS5__I2	<i>Microgravity flow phenomena</i>	(315)

9:30 – 10:30 Sectional Lectures

P. B. Rhines	<i>Ocean circulation and its influence on climate</i>	(134)
A. Preumont	<i>Some issues in active vibration control of smart structures</i>	(208)
H. Gao	<i>Nanoscale mechanics of biological materials</i>	(219)
D. A. Saville	<i>Electrokinetics and electrohydrodynamics in microfluidics</i>	(306)
E. Sackmann	<i>Micromechanics and microviscoelasticity of cells</i>	(309)
D. A. Beysens	<i>Near-critical point hydrodynamics and microgravity</i>	(315)

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

SM10_L1	<i>Functionally graded materials</i>	(123)
FM16_L2	<i>Fluid mechanics of suspension</i>	(124)
MS6__L2	<i>Atmosphere and ocean dynamics</i>	(134)
SM24_L1	<i>Structural optimization</i>	(144)
SM18_L1	<i>Plasticity and viscoplasticity</i>	(206)
SM13_L1	<i>Mechanics of composites</i>	(208)
SM14_L1	<i>Mechanics of phase transformations (jointly with IACM)</i>	(213)
MS3__L2	<i>Mechanics of thin films and nanostructures</i>	(219)
SM22_L1	<i>Stability of structures</i>	(226)
SM9__L1	<i>Fracture and crack mechanics</i>	(231)
FM11_L1	<i>Flow control</i>	(306)
MS2__L2	<i>Tissue, cellular and molecular biomechanics</i>	(309)
FM14_L1	<i>Flow in thin films</i>	(315)
FM23_L1	<i>Topological fluid mechanics</i>	(327)

13:00 – 14:30 Lunch

14:30 – 16:30 Seminar Presentation Sessions

FSM1_S1	<i>Acoustics</i>	(000A)
FSM2_S1	<i>Chaos in fluid and solid mechanics</i>	(000B)
FSM3_S1	<i>Continuum mechanics</i>	(000C)
FSM5_S1	<i>Mechanics of foams and cellular materials</i>	(000D)
FM15_S1	<i>Fluid mechanics of materials processing</i>	
SM20_S1	<i>Rock mechanics and geomechanics</i>	
SM24_S1	<i>Structural optimization</i>	(123)
SM17_S1	<i>Multibody dynamics</i>	(124)

MS6__S1	<i>Atmosphere and ocean dynamics</i>	(134)
SM10__S1	<i>Functionally graded materials</i>	(134A)
SM19__S1	<i>Plates and shells</i>	(134B)
SM1__S1	<i>Computational solid mechanics</i>	(144)
SM18__S1	<i>Plasticity and viscoplasticity</i>	(160)
SM2__S1	<i>Contact and friction mechanics</i>	(206)
MS1__S1	<i>Smart materials and structures</i>	(208)
SM13__S1	<i>Mechanics of composites</i>	(213)
SM6__S1	<i>Elasticity</i>	(215)
SM25__S1	<i>Structural vibrations</i>	(219)
MS3__S1	<i>Mechanics of thin films and nanostructures</i>	(219A)
SM9__S1	<i>Fracture and crack mechanics</i>	(226)
SM11__S1	<i>Impact and wave propagation</i>	(231)
FM9__S1	<i>Environmental fluid dynamics</i>	(237A)
FM4__S1	<i>Complex and smart fluids</i>	(304)
FM14__S1	<i>Flow in thin films</i>	(305A)
SM27__S1	<i>Viscoelasticity and creep</i>	
FM10__S1	<i>Experimental methods in fluid mechanics</i>	(305)
FM6__S1	<i>Computational fluid dynamics</i>	(306)
FM21__S1	<i>Solidification and crystal growth</i>	(307A)
FM11__S1	<i>Flow control</i>	(307)
FM16__S1	<i>Fluid mechanics of suspension</i>	(308A)
FM12__S1	<i>Flow in porous media</i>	(308)
MS2__S1	<i>Tissue, cellular and molecular biomechanics</i>	(309)
SM22__S1	<i>Stability of structures</i>	(315)
FM8__S1	<i>Drops and bubbles</i>	
MS4__S1	<i>Microfluids</i>	(315A)
MS5__S1	<i>Microgravity flow phenomena</i>	
FM13__S1	<i>Flow instability and transition</i>	(327)

16:30 – 17:00 Break

17:00 – 19:00 Lecture Sessions

FSM1__L1	<i>Acoustics</i>	(123)
SM19__L2	<i>Plates and shells</i>	(124)
SM1__L1	<i>Computational solid mechanics</i>	(134)
FSM2__L1	<i>Chaos in fluid and solid mechanics</i>	(144)
SM18__L2	<i>Plasticity and viscoplasticity</i>	(206)
SM13__L2	<i>Mechanics of composites</i>	(208)
SM14__L2	<i>Mechanics of phase transformations (jointly with IACM)</i>	(213)
SM11__L1	<i>Impact and wave propagation</i>	(219)
FM7__L1	<i>Convective phenomena</i>	(226)
SM4__L2	<i>Damage mechanics</i>	(231)
FM26__L1	<i>Waves</i>	(306)
FM17__L1	<i>Granular flows</i>	(309)
FM19__L1	<i>Magnetohydrodynamics</i>	(315)
FM12__L1	<i>Flow in porous media</i>	(327)

Wednesday, 18 August

8:30 – 10:30 Lecture Sessions

SM10_L2	<i>Functionally graded materials</i>	(123)
FSM6_L1	<i>Multiscale phenomena in mechanics</i>	(124)
SM1_L2	<i>Computational solid mechanics</i>	(134)
SM24_L2	<i>Structural optimization</i>	(144)
FM5_L1	<i>Compressible flow</i>	(206)
SM13_L3	<i>Mechanics of composites</i>	(208)
SM12_L1	<i>Material instabilities</i>	(213)
SM2_L1	<i>Contact and friction mechanics</i>	(219)
SM25_L1	<i>Structural vibrations</i>	(226)
SM4_L3	<i>Damage mechanics</i>	(231)
FM26_L2	<i>Waves</i>	(306)
FM24_L1	<i>Turbulence</i>	(309)
FM13_L1	<i>Flow instability and transition</i>	(315)
FM22_L1	<i>Stirring and mixing</i>	(327)

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

SM7_L1	<i>Experimental methods in solid mechanics</i>	(123)
FM9_L1	<i>Environmental fluid dynamics</i>	(124)
SM1_L3	<i>Computational solid mechanics</i>	(134)
FSM5_L1	<i>Mechanics of foams and cellular materials</i>	(144)
SM5_L1	<i>Dynamic plasticity of structures</i>	(206)
SM13_L4	<i>Mechanics of composites</i>	(208)
SM11_L2	<i>Impact and wave propagation</i>	(213)
SM2_L2	<i>Contact and friction mechanics</i>	(219)
SM25_L2	<i>Structural vibrations</i>	(226)
SM9_L2	<i>Fracture and crack mechanics</i>	(231)
FM14_L2	<i>Flow in thin films</i>	(306)
FM17_L2	<i>Granular flows</i>	(309)
FM13_L2	<i>Flow instability and transition</i>	(315)
FM2_L1	<i>Boundary layers</i>	(327)

13:00 – 14:30 Lunch

14:30 – 22:00 Excursions

19:00 – 21:00 Folk Dance Performance (Kongresowa)

Thursday, 19 August

8:30 – 9:30 Sectional Lectures

E. Kreuzer	<i>Nonlinear dynamics in ocean engineering</i>	(134)
H. L. Swinney	<i>Probability distribution functions for a rapidly rotating turbulent flow: experiment and theory</i>	(208)
P. J. Ladeveze	<i>A bridge between the micro - and mesomechanics of laminates: fantasy or reality</i>	(219)
J. F. Brady	<i>Suspensions: from micromechanics to macroscopic behavior</i>	(306)
R. W. Ogden	<i>Mechanics of rubberlike solids</i>	(309)
T. J. R. Hughes	<i>Variational and multiscale methods in turbulence with particular emphasis on large eddy simulation</i>	(315)

9:30 – 10:30 Lecture Sessions

FM18_L1	<i>Low-Reynolds-number flow</i>	(123)
FSM4_L1	<i>Fluid-structure interaction</i>	(124)
MS6_L3	<i>Atmosphere and ocean dynamics</i>	(134)
FSM5_L2	<i>Mechanics of foams and cellular materials</i>	(144)
FM10_L1	<i>Experimental methods in fluid mechanics</i>	(206)
MS1_L2	<i>Smart materials and structures</i>	(208)
SM12_L2	<i>Material instabilities</i>	(213)
SM14_L3	<i>Mechanics of phase transformations (jointly with IACM)</i>	(219)
SM11_L3	<i>Impact and wave propagation</i>	(226)
SM4_L4	<i>Damage mechanics</i>	(231)
FM11_L2	<i>Flow control</i>	(306)
FM2_L2	<i>Boundary layers</i>	(309)
FM7_L2	<i>Convective phenomena</i>	(315)
FM22_L2	<i>Stirring and mixing</i>	(327)

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

FSM7_L1	<i>Education in mechanics</i>	(123)
FSM4_L2	<i>Fluid-structure interaction</i>	(124)
SM1_L4	<i>Computational solid mechanics</i>	(134)
SM24_L3	<i>Structural optimization</i>	(144)
SM20_L1	<i>Rock mechanics and geomechanics</i>	(206)
SM15_L1	<i>Mechanics of porous materials</i>	(208)
FM1_L1	<i>Biological fluid dynamics</i>	(213)
SM2_L3	<i>Contact and friction mechanics</i>	(219)
SM25_L3	<i>Structural vibrations</i>	(226)
SM17_L1	<i>Multibody dynamics</i>	(231)
FM19_L2	<i>Magnetohydrodynamics</i>	(306)
FM25_L1	<i>Vortex dynamics</i>	(309)
FM13_L3	<i>Flow instability and transition</i>	(315)
FM8_L1	<i>Drops and bubbles</i>	(327)

13:00 – 14:30 Lunch

14:30 – 16:30 Seminar Presentation Sessions

FSM1_S2	<i>Acoustics</i>	
SM7_S1	<i>Experimental methods in solid mechanics</i>	(000A)
FSM4_S1	<i>Fluid-structure interaction</i>	(000B)
FSM6_S1	<i>Multiscale phenomena in mechanics</i>	(000C)
FM17_S1	<i>Granular flows</i>	
FSM7_S1	<i>Education in mechanics</i>	(000D)
FM1_S1	<i>Biological fluid dynamics</i>	
SM24_S2	<i>Structural optimization</i>	(123)
SM12_S1	<i>Material instabilities</i>	(124)
SM16_S1	<i>Mechatronics</i>	
SM17_S2	<i>Multibody dynamics</i>	(134)
SM8_S1	<i>Fatigue</i>	
SM15_S1	<i>Mechanics of porous materials</i>	(134A)
FM5_S1	<i>Compressible flow</i>	(134B)
SM1_S2	<i>Computational solid mechanics</i>	(144)
SM18_S2	<i>Plasticity and viscoplasticity</i>	(160)
SM2_S2	<i>Contact and friction mechanics</i>	(206)
SM4_S1	<i>Damage mechanics</i>	(208)
SM13_S2	<i>Mechanics of composites</i>	(213)
SM6_S2	<i>Elasticity</i>	(215)
SM14_S1	<i>Mechanics of phase transformations (jointly with IACM)</i>	
SM23_S1	<i>Stochastic micromechanics</i>	
SM25_S2	<i>Structural vibrations</i>	(219)
FM7_S1	<i>Convective phenomena</i>	(219A)
SM9_S2	<i>Fracture and crack mechanics</i>	(226)
SM11_S2	<i>Impact and wave propagation</i>	(231)
SM3_S1	<i>Control of structures</i>	(237A)
FM18_S1	<i>Low-Reynolds-number flow</i>	(304)
FM25_S1	<i>Vortex dynamics</i>	(305A)
FM22_S1	<i>Stirring and mixing</i>	(305)
FM19_S1	<i>Magnetohydrodynamics</i>	(306)
FM20_S1	<i>Multiphase flows</i>	(307A)
FM6_S2	<i>Computational fluid dynamics</i>	(307)
FM23_S1	<i>Topological fluid mechanics</i>	
FM3_S1	<i>Combustion and flames</i>	(308A)
FM2_S1	<i>Boundary layers</i>	(308)
FM26_S1	<i>Waves</i>	(309)
FM8_S2	<i>Drops and bubbles</i>	(315)
FM9_S2	<i>Environmental fluid dynamics</i>	(315A)
FM24_S1	<i>Turbulence</i>	(327)

19:30 – 23:00 Conference Banquet

Friday, 20 August

8:30 – 9:30 Sectional Lectures

Edward Spiegel	<i>Problems in astrophysical fluid dynamics</i>	(134)
Jorge Ambrosio	<i>Multibody dynamics: bridging for multidisciplinary applications</i>	(208)
Anatoly Neishtadt	<i>Probability phenomena in perturbed dynamical systems</i>	(219)
Roland Keunings	<i>Non-newtonian fluid mechanics using molecular theory</i>	(306)
Konrad Bajer	<i>Rapid formation of strong gradients and diffusion in the transport of scalar and vector fields</i>	(309)
Marcel Lesieur	<i>Turbulence and large-eddy simulations</i>	(315)

9:30 – 10:30 Lecture Sessions

FM21_L2	<i>Solidification and crystal growth</i>	(123)
FSM6_L2	<i>Multiscale phenomena in mechanics</i>	(124)
FM3_L1	<i>Combustion and flames</i>	(134)
FSM2_L2	<i>Chaos in fluid and solid mechanics</i>	(144)
SM20_L2	<i>Rock mechanics and geomechanics</i>	(206)
SM9_L3	<i>Fracture and crack mechanics</i>	(208)
SM18_L3	<i>Plasticity and viscoplasticity</i>	(213)
FSM5_L3	<i>Mechanics of foams and cellular materials</i>	(219)
FM4_L2	<i>Complex and smart fluids</i>	(226)
SM17_L2	<i>Multibody dynamics</i>	(231)
FM26_L3	<i>Waves</i>	(306)
FM20_L1	<i>Multiphase flows</i>	(309)
FM19_L3	<i>Magnetohydrodynamics</i>	(315)
FM12_L2	<i>Flow in porous media</i>	(327)

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

SM16_L1	<i>Mechatronics</i>	(123)
FSM3_L1	<i>Continuum mechanics</i>	(124)
SM1_L5	<i>Computational solid mechanics</i>	(134)
FM15_L1	<i>Fluid mechanics of materials processing</i>	(144)
SM26_L1	<i>Vehicle dynamics</i>	(206)
SM15_L2	<i>Mechanics of porous materials</i>	(208)
FM1_L2	<i>Biological fluid dynamics</i>	(213)
SM8_L1	<i>Fatigue</i>	(219)
SM22_L2	<i>Stability of structures</i>	(226)
SM27_L1	<i>Viscoelasticity and creep</i>	(231)
FM24_L2	<i>Turbulence</i>	(306)
FM25_L2	<i>Vortex dynamics</i>	(309)
FM20_L2	<i>Multiphase flows</i>	(315)
FM8_L2	<i>Drops and bubbles</i>	(327)

13:00 – 14:30 Lunch

14:30 – 15:30 Closing Lecture

Kazimierz Sobczyk

Presiding: Stephen H. Crandall & Włodzimierz Kurnik

15:30 – 16:30 Closing Ceremony

IUTAM Meetings

SUNDAY, 15 AUGUST 2004		
09:00 – 12:00	Executive Committee of Congress Committee	Room 109 (Rector Bureau)
10:30 – 12:00	Symposia Panels: 30 min joint meeting of both Panels, followed by Panel meetings in parallel	Room 123 (room part A/B)
14:00 – 17:00	Bureau Meeting (1 st session)	Room 109 (Rector Bureau)
19:30 – 21:30	Congress Committee (1 st session)	Room 124 (Senate Room)

TUESDAY, 17 AUGUST 2004		
18:30 – 22:30	General Assembly (1 st session)	Room 124 (Senate Room)

WEDNESDAY, 18 AUGUST 2004		
14:00 – 17:00	General Assembly (2 nd session)	Room 124 (Senate Room)

THURSDAY, 19 AUGUST 2004		
13:30 – 15:30	Congress Committee (2 nd session)	Room 124 (Senate Room)

FRIDAY, 20 AUGUST 2004		
12:30 – 13:30	Bureau Meeting (Prizes)	Room 109 (Rector Bureau)
19:00 – 23:00	IUTAM reception invited by Polish Academy of Sciences	Jablonna Palace

SATURDAY, 21 AUGUST 2004		
09:00 – 12:00	Bureau Meeting (2 nd session)	Room 109 (Rector Bureau)
14:00 – 16:00	Executive Committee of Congress Committee	Room 109 (Rector Bureau)

SIG-37

THURSDAY, 19 AUGUST 2004		
17:00-18:30	ERCOFTAC Special Interest Group meeting of SIG-37 on Bio-Fluid Mechanics and Heat Transfer (jointly with NoE ABIOMED)	Room 123

M-C Open Forum

THURSDAY, 19 AUGUST 2004		
17:00-18:30	Marie-Curie 6FP Open Forum Session <i>Challenges in Mechanics</i>	Room 134

ICTAM 2004 Program

Sunday, August 15

15:00 – 18:00 **Registration**

18:00 – 21:00 **Get-together Party**

Monday, August 16

8:00 – 10:00 **Registration**

10:00 – 11:00 **Opening Ceremony**

11:00 – 12:00 **Opening Lecture**

Main Aula

Presiding: Hassan Aref & Michal Kleiber

OLI_10498

Interplay between air and water

Leen van Wijngaarden

12:00 – 13:30 **Lunch**

13:30 – 15:30 Mini-Symposia Introductory Lectures

	13:30	14:30
MS6_I1 <i>Atmosphere and ocean dynamics</i> Chairperson: Jacques Vanneste (UK) Room 134	MS6I_10987 <i>Transport and mixing in the atmosphere</i> Peter Haynes	MS6I_10716 <i>Wave vortex interactions in the atmosphere and oceans; with applications to climate</i> Onno Bokhove
MS1_I1 <i>Smart materials and structures</i> Chairperson: Nancy R. Sottos (USA) Room 208	MS1I_11684 <i>Autonomic healing of polymers and composites</i> Scott R. White	MS1I_10722 <i>A way to search for smart materials with unprecedented physical properties</i> Richard D. James
MS3_I1 <i>Mechanics of thin films and nanostructures</i> Chairperson: Xi-Qiao Feng (China) Room 219	MS3I_11594 <i>Mechanics of nanostructures</i> Rodney S. Ruoff	MS3I_11070 <i>Mechanics of thin film structures</i> Henrik Myhre Jensen
MS4_I1 <i>Microfluids</i> Chairperson: Pierre Joseph (France) Room 306	MS4I_12976 <i>Miniaturization of explosive technology and microdetonics</i> D. Scott Stewart	MS4I_12961 <i>Electrokinetic flow instabilities in microfluidic systems</i> Juan G. Santiago
MS2_I1 <i>Tissue, cellular and molecular biomechanics</i> Chairperson: Dominique Barthes-Biesel (France) Room 309	MS2I_10709 <i>Molecular mechanics of cytoskeletal components</i> Christoph F. Schmidt	MS2I_10933 <i>Tissue Mechanics</i> Susan S. Margulies
MS5_I1 <i>Microgravity flow phenomena</i> Chairperson: Iwan Alexander (USA) Room: 315	MS5I_10598 <i>Foams, films and surfaces in microgravity</i> Denis Weaire	MS5I_10714 <i>Collisional granular flows with and without gas interactions in microgravity</i> Michel Y. Louge

15:30 – 16:00 Break

16:00 – 18:00 Lecture Sessions

	16:00	16:20	16:40	17:00	17:20	17:40
FM21_L1 <i>Solidification and crystal growth</i> Chairperson: Martin E. Glicksman (USA) Room 123	FM21L_11328 <i>Solidification and compositional convection of a ternary alloy</i> Andrew F. Thompson	FM21L_12365 <i>Directional solidification of Pb-Sn alloys affected by a rotating magnetic field</i> Sven Eckert	FM21L_11472 <i>Mushy zone evolution: experimental and theoretical approach</i> John Lowengrub	FM21L_11270 <i>Nonlinear oscillatory convection in mushy layers</i> Peter Guba	FM21L_11926 <i>Salt precipitation in geothermal reservoirs</i> George G. Tsypkin	FM21L_11320 <i>Magnetic resonance imaging of structure and convection in solidifying mushy layers</i> P. Aussillous
FM16_L1 <i>Fluid mechanics of suspension</i> Chairperson: E. John Hinch (UK) Room 124	FM16L_10361 <i>Velocity fluctuations in non - brownian suspensions undergoing simple shear flows</i> A. Acrivos	FM16L_10603 <i>The collective dynamics of self - propelled particles</i> Vishwajeet Mehandia	FM16L_10993 <i>Microstructure of a dilute sedimenting suspension</i> Krzysztof Sadlej	FM16L_11418 <i>Numerical simulations of particle suspensions in a rotating flow</i> Anthony J. C. Ladd	FM16L_11473 <i>The effect of different particle contacts on suspension rheology</i> Helen J. Wilson	FM16L_11480 <i>Evolution of suspension sedimenting in a container bounded by horizontal walls</i> Evgeny S. Asmolov
MS6_L1 <i>Atmosphere and ocean dynamics</i> Chairperson: Olivier Talagrand (France) Room 134	MS6L_10261 <i>Modelling oceanographic coastal currents in small-scale and large-scale laboratory experiments</i> Peter J. Thomas	MS6L_10513 <i>Near-surface turbulence in a neutral planetary boundary layer: comparison of LES with the CASES'99 experiment observations</i> Pierre Carlotti	MS6L_11313 <i>A gradient Velocity and Vortical Motion in Rotating Fluids</i> Georgi Sutyrin	MS6L_10634 <i>Meridional flow of source driven grounded abyssal flow in a wind driven basin with topography</i> Gordon E. Swaters	MS6L_10977 <i>Remote recoil and wave capture: wave--vortex interactions in atmosphere-ocean models</i> Michael McIntyre	MS6L_11152 <i>Anisotropic large - scale turbulence on giant planets and in the ocean</i> B. Galperin
FM4_L1 <i>Complex and smart fluids</i> Chairperson: Alexander L. Yarin (Israel) Room 144	FM4L_10753 <i>Field-induced dielectrophoresis and phase separation in suspension</i> Boris Khosid	FM4L_11209 <i>Modeling DNA separations in self-assembled magnetic arrays: comparison of theory and experiment</i> Kevin D. Dorfman	FM4L_12437 <i>Particle manipulation in microfluidics: the role of dielectrophoresis, electrohydrodynamics and AC electrokinetics</i> Antonio Castellanos	FM4L_12662 <i>Ferrohydrodynamic hele-shaw cell flows and instabilities with simultaneous DC axial and in-plane rotating magnetic fields</i> Scott E. Rhodes	FM4L_11165 <i>The giant electrorheological effect in suspensions of nanoparticles</i> Ping Sheng	FM4L_12254 <i>Spray impact on solid walls of non - newtonian fluids, including yield stress and thixotropic behavior</i> Daniel A. Weiss
SM6_L1 <i>Elasticity</i> Chairperson: Raymond W. Ogden (UK) Room 206	SM6L_11220 <i>Stability of compressible elastic blocks</i> D M Haughton	SM6L_12189 <i>Analysis of trabecular bone as a hierarchical material</i> Iwona M. Jasiuk	SM6L_12289 <i>Investigation of couple - stress effects in elastic bodies under deformation</i> Valery P. Matveyenko	SM6L_12434 <i>Modelling of complex elastic crystals by means of micromorphic gyrocontinua</i> Elena F. Grekova	SM6L_12122 <i>Nonlocal eshelby entities: a one - dimensional example</i> Marcelo Epstein	SM6L_11523 <i>Generalized stress concentration factors</i> Reuven Segev

	16:00	16:20	16:40	17:00	17:20	17:40
MS1_L1 <i>Smart materials and structures</i> Chairperson: Andrzej Tylikowski (Poland) Room 208	MS1L_11731 <i>A novel approach to the application of ferroelectric thin films to micro – actuation</i> Kaushik Bhattacharya	MS1L_11685 <i>Stress effects on ferroelectric thin film patterning, properties and performance</i> N. R. Sottos	MS1L_12786 <i>Upper and lower bounds of electric induction intensity factors for multiple piezoelectric cracks by the BEM</i> Mitsunori Denda	MS1L_12637 <i>Ultrasonic characterization of phase transformation in niti wire during thermomechanical loading</i> Michal Landa	MS1L_12027 <i>SMA Hybrid Composites: Self - healing, Self - Stiffening and Shape Control Simulations</i> Catherine L. Brinson	MS1L_13011 <i>Self-healing polymer composites for extended fatigue life</i> Alan S. Jones
SM3_L1 <i>Control of structures</i> Chairperson: Sergio Pellegrino (UK) Room 213	SM3L_10457 <i>Optimal vibration control of guyed masts</i> Bartlomiej D. Blachowski	SM3L_11163 <i>Exact tracking control for nonlinear structural and mechanical systems</i> Firdaus E. Udwdia	SM3L_11243 <i>Control of multibody systems moving along a plane</i> F.L. Chernousko	SM3L_11265 <i>Control of random dynamics of a rigid rocking block</i> Agnessa Kovaleva	SM3L_12756 <i>Optimization of active control of structural vibration by the beam analogy</i> Walerian Szyszkowski	
MS3_L1 <i>Mechanics of thin films and nanostructures</i> Chairperson: Kenneth M. Liechti (USA) Room 219	MS3L_10105 <i>Thermomechanical continuum representation of atomistic deformation at arbitrary time and size scales</i> Min Zhou	MS3L_10699 <i>Ratcheting-induced wrinkling of an elastic film on a metal layer under cyclic temperatures</i> Rui Huang	MS3L_11122 <i>Atomistic study of size effect in torsion tests of nanowire</i> Akihiro Nakatani	MS3L_11260 <i>Solid mechanics methods in nano-technologies</i> Elena A. Ivanova	MS3L_11279 <i>Microstructural and atomistic simulation for deformation of nano-grained metals</i> Yang Wei	MS3L_11474 <i>Size-dependent elastic state of embedded nano-inclusions & quantum dots</i> Pradeep Sharma
SM19_L1 <i>Plates and shells</i> Chairperson: Ekkehard Ramm (Germany) Room 226	SM19L_10038 <i>A cohesive approach to thin shell fragmentation</i> Fehmi Cirak	SM19L_10233 <i>Some new thoughts on the buckling of thin cylindrical shells</i> Parthasarathi Mandal	SM19L_10287 <i>Continuity conditions in elastic shells with phase transformation</i> Wojciech Pietraszkiewicz	SM19L_11021 <i>Sensitivity analysis concerning the initial postbuckling behavior of elastic structures</i> Herbert A. Mang	SM19L_11932 <i>Nonlinear forced vibration analysis of rectangular plate using super elements</i> M. S. Zangeneh	SM19L_12350 <i>Nonlinear vibrations of shallow shells and thin plates of arbitrary shape</i> Lidija V. Kurpa
SM4_L1 <i>Damage mechanics</i> Chairperson: Paul Steinmann (Germany) Room 231	SM4L_10456 <i>Modeling of the damage evolution at the granular scale in polycrystals under complex cyclic loadings</i> A. Abdul-Latif	SM4L_11885 <i>A cdm approach of ductile damage with plastic volume changes</i> J.L. Chaboche	SM4L_11959 <i>Micromechanical modelling of the deformation and damage of inelastic brittle three - phase composites: application to fiber - reinforced concrete</i> I. Doghri	SM4L_11415 <i>A nonlocal plasticity - damage formulation based on the micromechanics of defect growth</i> R. H. J. Peerlings	SM4L_10865 <i>Continuumthermodynamic and variational modeling and simulation of ductile failure at large deformation with application to engineering structures</i> Bob Svendsen	SM4L_10974 <i>An elasto - viscoplastic model coupled to damage and grain growth to take account of material variability</i> Benoit Vereecke

	16:00	16:20	16:40	17:00	17:20	17:40
MS4_L1 <i>Microfluids</i> Chairperson: Howard Stone (USA) Room 306	MS4L_11437 <i>A second-order slip model for early-transition-regime flows</i> Nicolas G. Hadjiconstantinou	MS4L_11604 <i>Direct measurement and simulation of apparent slip velocities in sub-micron-scale flows</i> Kenneth S. Breuer	MS4L_11607 <i>Theoretical and experimental study of microchannel blockage phenomena</i> Eiichiro Yamaguchi	MS4L_11777 <i>Induced-charge electro-osmosis: theory and microfluidic applications</i> Todd M. Squires	MS4L_12673 <i>An accurate velocity profile measurement system for microfluidics : a direct measurement of the slip length</i> Pierre Joseph	MS4L_12966 <i>Tunable microfluidic bubble generator</i> Piotr Garstecki 18:00 MS4L_10723 <i>Plane Poiseuille Flow in a Rarefied Gas with General Boundary Conditions</i> Carlo Cercignani
MS2_L1 <i>Tissue, cellular and molecular biomechanics</i> Chairperson: Samuel Sideman (Israel) Room 309	MS2L_10627 <i>Micromechanics of cytoskeletal actin networks</i> Erik Van der Giessen	MS2L_11866 <i>Theory of polymorphism in bacterial flagella</i> Thomas R. Powers	MS2L_12031 <i>Stress and strain in a yeast cell under high hydrostatic pressure</i> Christoph Hartmann	MS2L_11961 <i>Hydrodynamic interaction between two bioartificial capsules in shear flow</i> Dominique Barthes-Biesel	MS2L_10689 <i>From individual cells to complex tissues - an immersed boundary approach</i> Katarzyna A. Rejniak	MS2L_11808 <i>Approximations of stiffness tensor of bone - determining and accuracy</i> Jaroslaw Piekarski
MS5_L1 <i>Microgravity flow phenomena</i> Chairperson: George M. Homsy (USA) Room 315	MS5L_11757 <i>Mathematical models of microconvection for isothermally incompressible and weakly compressible liquids</i> Vladislav V. Pukhnachov	MS5L_11843 <i>Onset of oscillations in high-prandtl thermocapillary liquid bridges: linear-stability analysis vs. experiment</i> Ermakov M.K.	MS5L_12402 <i>Spherical two-phase interface in a near-critical fluid. gradient approach</i> T.P. Lyubimova	MS5L_12427 <i>Transition to chaotic marangoni convection in liquid bridge</i> Shevtsova V.	MS5L_12447 <i>Capillary pressure of a liquid between uniform spheres arranged in a square-packed layer</i> J. Iwan D. Alexander	MS5L_12651 <i>Recent advances in permanent noncoalescence and nonwetting</i> G. Paul Neitzel
FM6_L1 <i>Computational fluid dynamics</i> Chairperson: Tadeusz Chmielniak (Poland) Room 327	FM6L_10163 <i>Non - reflecting boundary condition for direct aeroacoustic computation</i> Randolph C. K. Leung	FM6L_11348 <i>On inflow boundary conditions for large eddy simulation of turbulent swirling jets</i> Manuel Garcia - Villalba	FM6L_11602 <i>A pressure - correction method for all mach numbers</i> Erik Dick	FM6L_12123 <i>Three - Dimensional Rayleigh - Benard Instability in a Supercritical Fluid by Direct Numerical Simulation</i> Gilbert Accary	FM6L_13030 <i>Commutator - Errors in Large - Eddy Simulation of Turbulent Flow</i> Fedderik van der Bos	FM6L_12583 <i>Multiscale simulations using particles</i> Petros Koumoutsakos

19:00 – 22:00 Welcome Reception

Tuesday, August 17

8:30 – 9:30 Mini-Symposia Introductory Lectures

	08:30
MS6_I2 <i>Atmosphere and ocean dynamics</i> Chairperson: Joel Sommeria (France) Room 134	MS6I_10803 <i>Assimilation of observations into numerical models</i> Olivier Talagrand
MS1_I2 <i>Smart materials and structures</i> Chairperson: Jan Holnicki-Szulc (Poland) Room 208	MS1I_10680 <i>Elastic wave propagation development for structural health monitoring</i> Wieslaw M. Ostachowicz
MS3_I2 <i>Mechanics of thin films and nanostructures</i> Chairperson: Kyung-Suk Kim (USA) Room 219	MS3I_12132 <i>A hybrid molecular/continuum analysis of ifm experiments on a self-assembled monolayer</i> Kenneth. M. Liechti
MS4_I2 <i>Microfluids</i> Chairperson: Ronald J. Adrian (USA) Room 306	MS4I_12960 <i>Slip, patterns, and other small things in microfluidic systems</i> Patrick Tabeling
MS2_I2 <i>Tissue, cellular and molecular biomechanics</i> Chairperson: P. Janmey (USA) Room 309	MS2I_12811 <i>Elastic Interactions of Biological Cells</i> Samuel Safran
MS5_I2 <i>Microgravity flow phenomena</i> Chairperson: Jean C Legros (Belgium) Room 315	MS5I_11133 <i>Microgravity and microscale fluid mechanics</i> George M. Homsy

9:30 – 10:30 **Sectional Lectures**

	9:30
Chairperson: J. Sommeria (France) Room 134	SL14I_12781 <i>Ocean circulation and its influence on climate</i> Peter B. Rhines
Chairperson: J. Holnicki-Szulc (Poland) Room 208	SL13I_10930 <i>Some issues in active vibration control of smart structures</i> Andre Preumont
Chairperson: K. Kim (USA) Room 219	SL5I_10772 <i>Nanoscale mechanics of biological materials</i> Huajian Gao
Chairperson: R. Adrian (USA) Room 306	SL16I_10529 <i>Electrokinetics and electrohydrodynamics in microfluidics</i> D. A. Saville
Chairperson: P. Janmey (USA) Room 309	SL15I_11327 <i>Microviscoelasticity of cells: cells as viscoplastic bodies</i> Erich Sackmann
Chairperson: J. Legros (Belgium) Room 315	SL3I_10880 <i>Near-critical point hydrodynamics and microgravity</i> Daniel A. Beysens

10:30 – 11:00 **Break**

11:00 – 13:00 Lecture Sessions

	11:00	11:20	11:40	12:00	12:20	12:40
SM10_L1 <i>Functionally graded materials</i> Chairperson: Krzysztof Dolinski (Poland) Room 123	SM10L_12594 <i>Adiabatic shear bands in functionally graded materials</i> R. C. Batra	SM10L_11592 <i>Wave propagation in functionally graded materials</i> Juri Engelbrecht	SM10L_11207 <i>Strength evaluation of functionally graded materials under severe thermal environments</i> B. L. Wang	SM10L_10135 <i>Micromechanics - based elastic model for functionally graded materials with particle interactions</i> Lizhi Sun	SM10L_10836 <i>Transient Dynamic Crack Analysis in FGMs Under Impact Loading</i> Chuanzeng Zhang	SM10L_13018 <i>Thermoelastic analysis of functionally graded materials submitted to shocks</i> Lavinia S. A. Borges
FM16_L2 <i>Fluid mechanics of suspension</i> Chairperson: Ubbo B. Felderhof (Germany) Room 124	FM16L_12574 <i>Slip and flow in pastes</i> Michel Cloitre	FM16L_11850 <i>Inertial migration of rigid spherical particles in poiseuille flow</i> J. F. Morris	FM16L_11884 <i>Segregation of suspended particles in a rotating fluid - filled horizontal cylinder - experiment and theory</i> G. Seiden	FM16L_11991 <i>Migration of Buoyant Mono - and Bi - Disperse Suspensions in Low Reynolds Number Pressure - Driven Pipe Flow</i> Roger T. Bonnecaze	FM16L_12005 <i>Dynamic simulations of the instability of sedimenting fibers</i> David Saintillan	FM16L_12345 <i>Spreading fronts and fluctuations in sedimentation: part ii computer simulations</i> John Hinch
MS6_L2 <i>Atmosphere and ocean dynamics</i> Chairperson: Michael E. McIntyre (UK) Room 134	MS6L_11499 <i>Turbulent horizontal convection and the global thermohaline circulation of the oceans</i> Ross Griffiths	MS6L_11547 <i>Instability of gravity driven coastal current in a turntable experiment</i> Sommeria J.	MS6L_11585 <i>Intrusive gravity currents in a stratified ambient - novel theoretical results and insights</i> Marius Ungarish	MS6L_11829 <i>Interactions of planar waves with a baroclinic vortex</i> Flor Jan-Bert	MS6L_12104 <i>Spontaneous generation of inertia-gravity waves by balanced motion</i> Jacques Vanneste	MS6L_12157 <i>Wave capture and wave-vortex duality</i> Oliver Buhler
SM24_L1 <i>Structural optimization</i> Chairperson: Jose N. Herskovits (Brazil) Room 144	SM24L_10433 <i>Topology optimization of vibrating structures with hydrodynamic surface pressure loading</i> Niels Olhoff	SM24L_10669 <i>On shape optimization for eigenvalue problems</i> Pauli Pedersen	SM24L_11015 <i>Shape optimisation of railway wheel profile</i> V. L. Markine	SM24L_11137 <i>Shape optimization of thermomechanical structures in the presence of convection and radiation using parallel evolutionary computation</i> Tadeusz S. Burczynski	SM24L_11349 <i>Damage identification in structures by means of thermographic methods</i> Krzysztof Dems	SM24L_11623 <i>New classes of analytically derived optimal topologies and their numerical confirmation</i> George I. N. Rozvany

	11:00	11:20	11:40	12:00	12:20	12:40
SM18_L1 <i>Plasticity and viscoplasticity</i> Chairperson: Erik van der Giessen (Netherlands) Room 206	SM18L_10393 <i>Physically based thermomechanical modeling of metals over a wide range of strain rates and temperatures</i> George Z. Voyiadjis	SM18L_10955 <i>Simulation of dynamic polycrystalline thermoelastoviscoplasticity and fracture</i> John D. Clayton	SM18L_11005 <i>Assessing different self-consistent approximations by comparison with full-field simulations in viscoplastic polycrystals</i> Ricardo A. Lebensohn	SM18L_11110 <i>Three - dimensional modelling of thermo - elasto / viscoplastic solids containing adiabatic shear bands</i> Andre Dragon	SM18L_11410 <i>Thickness dependent yield strength of thin films</i> Peter Gudmundson	SM18L_11790 <i>Size - effects in void growth</i> Christian F. Niordson
SM13_L1 <i>Mechanics of composites</i> Chairperson: John R. Willis (UK) Room 208	SM13L_10244 <i>Interfacial properties of nanowire - polymer composites</i> Ryszard Pyrz	SM13L_10347 <i>Plane harmonic waves in a microperiodic layered thermoelastic solid revisited</i> Jozef Ignaczak	SM13L_10412 <i>Damage Progression by the Element - Failure Method (EFM) and Strain Invariant Failure Theory (SIFT)</i> Tong - Earn Tay	SM13L_10667 <i>Reissner-mindlin-von karman type plate modle for postbuckling analysis of laminated composite structures</i> Petri Kere	SM13L_11014 <i>Aspects of the mechanical response of randomly reinforced, chopped fiber strand, polymeric composites</i> Y. Jack Weitsman	SM13L_11080 <i>Computational modeling of deformation and damage in particle-reinforced composites</i> Javier LLorca
SM14_L1 <i>Mechanics of phase transformations (jointly with IACM)</i> Chairperson: Franz Dieter Fischer (Austria) Room 213	SM14L_12077 <i>A micromechanical model for single - crystal shape - memory – alloys</i> Thorsten Bartel	SM14L_11393 <i>Stress-induced martensitic phase transition front propagation</i> Arkadi Berezovski	SM14L_11852 <i>On modeling the longitudinal impact of two shape memory bars</i> Cristian Faciu	SM14L_11308 <i>Shape memory alloy under strain and stress controlled conditions - thermomechanical aspects of martensite and reverse transformations</i> Elzbieta A. Pieczyska	SM14L_12225 <i>Determination of phase transformation yield surface of anisotropic shape memory alloys</i> Lexcellent Christian	SM14L_10721 <i>The nature of stress and strain fields in shape memory polycrystals</i> Isaac Chenchiah
MS3_L2 <i>Mechanics of thin films and nanostructures</i> Chairperson: Mikhail N. Perelmuter (Russia) Room 219	MS3L_12384 <i>Characterization of mems materials</i> Jurg Dual	MS3L_12386 <i>An analytical model of oxide rumpling as the mechanism leading to failure in thermal barrier coatings</i> Daniel S. Balint	MS3L_12486 <i>Interfacial adhesion of pzt ferroelectric thin films determined by nano - indentation method</i> X. J. Zheng	MS3L_12502 <i>Wrinkling instability in nano-layers : anisotropy and sliding effects</i> Sidoroff Francois	MS3L_12705 <i>Mechanical behaviour of nano grained metals</i> Taher Saif	MS3L_12778 <i>Nano-scale planar field projection of atomistic decohesion of crystalline solids</i> SeungTae Choi

	11:00	11:20	11:40	12:00	12:20	12:40
SM22_L1 <i>Stability of structures</i> Chairperson: Zsolt Gaspar (Hungary) Room 226	SM22L_11097 <i>Wrinkles in square membranes</i> Sergio Pellegrino	SM22L_11600 <i>Dynamic arrest of propagating buckles in offshore pipelines</i> Theodoro A. Netto	SM22L_10692 <i>Elastoplastic microscopic bifurcation and post - bifurcation behavior of periodic cellular solids</i> Nobutada Ohno	SM22L_12688 <i>Twist buckling and the foldable cylinder: an exercise in origami</i> Giles W. Hunt	SM22L_11174 <i>Coupling of axisymmetric and 3D shell models for non linear elastoplastic buckling prediction of mainly axisymmetric shells</i> A. Combescur	SM22L_11939 <i>Stability of parametrically excited structures: new results</i> Alexander P. Seyranian
SM9_L1 <i>Fracture and crack mechanics</i> Chairperson: Asher A. Rubinstein (USA) Room 231	SM9L_10338 <i>Branching instability of brittle fracture</i> M. Adda - Bedia	SM9L_12378 <i>Interaction of propagating cracks and shear waves</i> Krishnaswamy Ravi-Chandar	SM9L_12171 <i>Massively parallel simulations of dynamic fracture and fragmentation of brittle solids</i> Irene Arias	SM9L_12393 <i>Disorder of the front of a tensile tunnel - crack propagating in some inhomogeneous medium</i> Jea - Baptiste Leblond	SM9L_10910 <i>3d microstructural effects on plane strain ductile crack growth</i> Alan Needleman	SM9L_12921 <i>Incremental minimization principles in fracture and damage mechanics</i> G. A. Francfort
FM11_L1 <i>Flow control</i> Chairperson: Mohamed Gad-el-Hak (USA) Room 306	FM11L_11394 <i>Response on the near wall turbulence to localized unsteady blowing periodical and dissymmetric in time</i> Sedat Tardu	FM11L_11636 <i>Passive control of turbulent flow behind a model vehicle for drag reduction using wake disrupter</i> Haecheon Choi	FM11L_12156 <i>On the possibility and prospects of turbulent flow noise control</i> Victor F. Kopiev	FM11L_12013 <i>A singular value analysis of boundary layer control</i> Junwoo Lim	FM11L_12305 <i>Optimal energy growth and optimal control of the swept attachment - line boundary layer</i> Alan Guegan	FM11L_12387 <i>Feedback control of vortex shedding in a separated diffuser</i> Tim Colonius
MS2_L2 <i>Tissue, cellular and molecular biomechanics</i> Chairperson: Samuel A. Safran (Israel) Room 309	MS2L_10267 <i>Wrinkling and buckling of isotropic biological tissues</i> Roberta Massabo	MS2L_11581 <i>Mechanics of venus' flytrap closure</i> Yoel Forterre	MS2L_10670 <i>Residual stress fields in soft tissues</i> Tobias Olsson	MS2L_10988 <i>Mechanics of deep penetration of soft solids</i> Norman Fleck	MS2L_12064 <i>Measuring the mechanical properties of soft biological tissues</i> Edoardo Mazza	MS2L_12315 <i>Modeling of periodic load effects in bone tissue adaptation</i> Tomasz Lekszycki
FM14_L1 <i>Flow in thin films</i> Chairperson: John Tsamopoulos (Greece) Room 315	FM14L_10642 <i>Effect of bottom undulations on the stability of film flow down inclined planes</i> Nuri Aksel	FM14L_12656 <i>Hydrodynamics of the solitary waves travelling down a liquid film</i> Jaroslav Tihon	FM14L_10557 <i>Solitary waves on liquid film flowing along a periodic wall</i> V. Bontozoglou	FM14L_10928 <i>Hydraulic jumps and resonance in gravity - driven flows of liquid in inclined wavy channels: transition and hysteresis</i> Andreas Wierschem	FM14L_11799 <i>Drifting and merging collars in liquid-lined tubes</i> Andrew A. King	FM14L_11089 <i>Hydrodynamic theory of de - wetting</i> Jens Eggers

	11:00	11:20	11:40	12:00	12:20	12:40
FM23_L1 <i>Topological fluid mechanics</i> Chairperson: Philip Boyland (USA) Room 327	FM23L_10938 <i>Eulerian - lagrangian analysis of navier - stokes turbulence</i> Koji Ohkitani	FM23L_11060 <i>Topological chaos in simple mixers</i> Matthew D. Finn	FM23L_11677 <i>Generic hydrodynamic instability</i> Robert W. Ghrist	FM23L_12375 <i>Helicity dynamics of vortex filaments</i> Samuel N. Stechmann	FM23L_12484 <i>Relation between mixing efficiency and geometrical property of stable manifolds</i> Mitsuaki Funakoshi	FM23L_11660 <i>Particle transport by a vortex soliton</i> Yoshi Kimura

13:00 – 15:00 **Lunch**

14:30 – 16:30 **Seminar Presentation Sessions**

	FSM1_S1 <i>Acoustics</i> Chairperson: Edward J. Kerschen (USA) Room 000A	FSM2_S1 <i>Chaos in fluid and solid mechanics</i> Chairperson: Radoslaw Iwankiewicz (S. Africa) Room 000B	FSM3_S1 <i>Continuum mechanics</i> Chairperson: Michal Basista (Poland) Room 000C	FSM5_S1 <i>Mechanics of foams and cellular materials</i> Chairperson: Sascha Hilgenfeldt (Netherlands) Room 000D
14:30	FSM1S_10294 <i>Dissipative effects on propagation of the acoustic solitary waves</i> N. Sugimoto	FSM2S_10070 <i>Nonlinear dynamics of parametrical excited two - degrees - of - freedom flexible pendulum</i> Amir A. Zadpoor	FSM3S_10633 <i>On the volumetric growth of binary solid-fluid mixtures</i> Sara Quiligotti	FSM5S_11292 <i>Modelling the round-off and the tensile/compressive failure behaviour of plant and vegetable tissues</i> H. X. Zhu
14:35	FSM1S_11044 <i>Bifurcation of the p2 wave and its influence on fluid - induced micro earthquakes in porous rocks: long wave asymptotics of the biot model</i> Inna Edelman	FSM2S_10823 <i>Attractor and pattern control in nonlinear media by localized defects</i> Bogdan Kazmierczak	FSM3S_11096 <i>Pseudo - rigid bodies viewed as globally constrained continua</i> James Casey	FSM5S_12395 <i>Thermal flow through brazed woven screens</i> T.J. Lu
14:40	FSM1S_11337 <i>Wave propagation in and sound emission from a sandwich plate under heavy fluid loading</i> Sergey Sorokin	FSM2S_11241 <i>Chaotic attractors with long regular sequences</i> Ugo Galvanetto	FSM3S_11140 <i>Constitutive equations of mesoelastic deformation</i> Lev Steinberg	FSM5S_12986 <i>Investigation of foam development in porous media using x-ray computed tomography</i> Pacelli L. J. Zitha

14:45	FSM1S_11508 <i>The low - temperature acoustical and thermal properties of materials due to the dynamics of linear topological defects</i> Dmitry V. Churochkin	FSM2S_11302 <i>Reduction of multidimensional flow to low dimensional map for piecewise smooth system experiencing chaos</i> Ekaterina E. Pavlovskaya	FSM3S_11247 <i>Application of continuum mechanics in the textile fabrics</i> Bohuslav Striz	FM15_S1 <i>Fluid mechanics of materials processing</i> Chairperson: Rene J. Moreau (France) Room 000D FM15S_12636 <i>Sensitive regions and optimal perturbations in the floating zone using the adjoint system</i> Othman Bouizi
14:50	FSM1S_11881 <i>Fourier spectrum representation of vector multipole field and its application in wave scattering in elastic half - space</i> Chau - Shioung Yeh	FSM2S_11355 <i>A new road to chaos in dynamical systems with impact interactions</i> Alevtina V. Menshenina	FSM3S_11638 <i>Viscoelastic fluid flows in a falling cylinder viscometer and the evaluation of shear viscosity</i> Victor M. Tigoiu	FM15S_10440 <i>Flow and crystallization of holey, compound, optical fibers</i> J. I. Ramos
14:55	FSM1S_11896 <i>Transmission of elastic waves and localised modes in composite structures</i> Natasha V. Movchan	FSM2S_11416 <i>On generating chaotic dynamics in nonlinear vibrating systems</i> Elzbieta Tyrkiel	FSM3S_11642 <i>Fundamental inequalities for the bounds on the effective transport coefficients of two-phase media</i> Stanislaw Tokarzewski	FM15S_11386 <i>Effect of thermal boundary modulation in a restricted fluid domain of a 3d vertical bridgman apparatus</i> E. Semma
15:00	FSM1S_11973 <i>Arbitrarily wide-angle wave equations and their applications to unbounded domain modeling and subsurface imaging</i> Murthy N. Guddati	FSM2S_11512 <i>Chaos in wave front propagation in heterogeneous media</i> Anatoly V. Chigarev	FSM3S_11704 <i>On the source of singularities in mechanics</i> Glenn B. Sinclair	FM15S_11903 <i>Liquid and gas jets impinging on a moving wetted surface</i> Geoffrey M. Evans
15:05	FSM1S_12149 <i>Ultrasonic travel - time technique for diagnostic of grid - generated turbulence</i> Tatiana A. Andreeva	FSM2S_12014 <i>Influence of remaining chaos on convergence of solutions in time delayed feedback controlled duffing system</i> Kohei Yamasue	FSM3S_11840 <i>Nonlinear waves in elastic solids</i> Wlodzimierz Domanski	SM20_S1 <i>Rock mechanics and geomechanics</i> Chairperson: Stanislaw A. Lukasiewicz (Canada) Room 000D SM20S_10374 <i>Dynamic behaviours of soils and rocks in a wide pressure range</i> Leopold Kruska
15:10	FSM1S_12180 <i>The acoustics of two - dimensional leapfrogging vortex interactions</i> Jeff D. Eldredge	FSM2S_12468 <i>On the nonlinear dynamics of multicomponent dynamical systems</i> Igor Mezic	FSM3S_12392 <i>Views on material forces in multiplicative elastoplasticity</i> A. Menzel	SM20S_10421 <i>The localization of plastic strain and rock fracture</i> Alexandr M. Kovrizhnykh

15:15	FSM1S_12555 <i>Numerical Analysis of the Texture and Acousto-Elastic Properties of Prestressed Polycrystalline Aggregate</i> Jozef Lewandowski	FSM2S_12482 <i>Short-time dynamical behavior of fluids at the atomic scale</i> Theodoros E. Karakasidis	FSM3S_12406 <i>Affine symmetry in mechanics of discrete and continuous systems</i> Jan J. Slawianowski	SM20S_11427 <i>Mohr-coulomb yield criterion for cosserat continua</i> Yuchao Li
15:20	FSM1S_12516 <i>Gas Oscillations in a Closed Tube at Resonance</i> Alexander Alexeev	FSM2S_12734 <i>Parametric instability and chaos in the simple portal under ground motion</i> Verica Raduka	FSM3S_12729 <i>A Model for the Hysteresis of Shape Memory Wires</i> Giuseppe Puglisi	SM20S_12364 <i>On the use of second - order topological information for subsurface imaging by elastic waves</i> Bojan Guzina
15:25				SM20S_12848 <i>The influence of teeth on the earth - working processes</i> Jan Maciejewski

	SM24_S1 <i>Structural optimization</i> Chairperson: Tadeusz S. Burczynski (Poland) Room 123	SM17_S1 <i>Multibody dynamics</i> Chairperson: Anatoly I. Neishtadt (Russia) Room 124	MS6_S1 <i>Atmosphere and ocean dynamics</i> Chairperson: Peter H Haynes (UK) Room 134	SM10_S1 <i>Functionally graded material</i> Chairperson: Juri Engelbrecht (Estonia) Room 134A
14:30	SM24S_10048 <i>Shape sensitivity analysis for fixed - grid analysis based on oblique boundary curve approximation</i> Yoon Young Kim	SM17S_10026 <i>A geometrical framework for modeling and simulation of nonholonomic mechanical systems</i> Blajer Wojciech	MS6S_13017 <i>Simulation of sea surface temperature trends under severe wind forcing with a full atmosphere-ocean coupled model</i> Silvia Ferrarese	SM10S_10364 <i>A state space formalism for piezothermoelasticity of functionally graded materials</i> Jiann - Quo Tarn
14:35	SM24S_10052 <i>Perturbation of the compliance functional due to the apperance of a small cavity in an elastic body</i> Jan Sokolowski	SM17S_11352 <i>Selected problems of discrete - continuous mechanical systems with local nonlinearities</i> Pielorz Amalia	MS6S_11336 <i>Strong vortex interactions in quasi-geostrophic flows</i> Jean N. Reinaud	SM10S_10501 <i>Conservation laws of functionally graded materials in elastodynamics</i> Shi Weichen
14:40	SM24S_12074 <i>Density gradient based regularization of topology optimization problems</i> Gregor Kotucha	SM17S_11674 <i>Intrinsic formulation of dynamics of curvilinear systems</i> Jean Lerbet	MS6S_11732 <i>Irreversible transition to a state with higher entropy production in oceanic general circulation</i> Shinya Shimokawa	SM10S_11551 <i>The plane crack problem in a functionally graded orthotropic strip</i> Linshi Wu

14:45	SM24S_11997 <i>Topology design optimization for structures by adaptive growth method</i> Koetsu Yamazaki	SM17S_11446 <i>Generalized newton - euler dynamic equations</i> Evtim Zahariev	MS6S_11942 <i>A new spectral closure model of turbulent flows with stable stratification and its application to atmospheric SBLs</i> Semion Sukoriansky	SM10S_11572 <i>Frictional slip between a gradient non-homogeneous layer and a half-space in anti-plane elastic wave field</i> Gai Bing - Zheng
14:50	SM24S_10621 <i>Nash equilibrium in bicriteria structural optimization</i> Timo Saksala	SM17S_11640 <i>On approximate jacobian matrices in simulation of stiff multibody systems</i> Dmitry Pogorelov	MS6S_12035 <i>Roll vortices in the atmospheric boundary layer</i> Dieter Etling	SM10S_11671 <i>Adaptive modelling of microscopic heterogeneous medium undergoing large deformation</i> Eduard Rohan
14:55	SM24S_11316 <i>Efficient optimization of transient dynamic problems for a micro accelerometer using model order reduction</i> Jeong Sam Han	SM17S_12029 <i>The absolute coordinate formulation with reduced strain and stiffening</i> Johannes Gerstmayr	MS6S_12140 <i>The energy cycle of the tropical madden-julian oscillations seen through wavelets</i> Jun-Ichi Yano	SM10S_12461 <i>Study of two-dimensional elasticity on FGM</i> Takemasa Seto
15:00	SM24S_11486 <i>Topological optimization for contact problems</i> Antoni Zochowski	SM17S_12539 <i>Generating optimal motions of constrained multibody systems</i> Guy Bessonnet	MS6S_12169 <i>A new theory for convection in rapidly rotating spherical systems</i> Keke Zhang	SM10S_12465 <i>Three-dimensional transient thermoelastic analysis of orthotropic functionally graded rectangular plate</i> Yoshihiro Ootao
15:05	SM24S_11532 <i>Coupled sensitivity and design optimization for thermo-structural systems</i> Yuanxian Gu	SM17S_10893 <i>Simulation of constrained rigid and elastic bodies without constraint equations</i> Oleg Dmitrochenko	MS6S_12194 <i>Vortex-based models of quasigeostrophic turbulence</i> Takeshi Miyazaki	SM10S_12664 <i>Nonlocal effects in micromechanics of functionally graded composites of random structure</i> Gregory Schoeppner
15:10	SM24S_11634 <i>Optimal structures for buckling forces and buckling displacements</i> Pawel Smas	SM17S_10533 <i>Research of movement of the mechanism sufficient with elastic part</i> Gakhip Ualiyev	MS6S_12408 <i>Laboratory and numerical modelling of exchange flows</i> Kanarska Yuliya	SM10S_12968 <i>First principles-based equations of state for functionally graded materials</i> S. Hanagud
15:15	SM24S_11858 <i>Optimal design of unconstrained damping layer on beams</i> Doo - Ho Lee	SM17S_12464 <i>Expression on the deflection of a flexible thin rod and its measurement</i> Kohichi Miura	MS6S_12463 <i>Wave-mean flow interaction in coupled atmosphere-ice-ocean systems</i> Alastair D. Jenkins	
15:20		SM17S_10624 <i>Homoclinic Orbits Layering in the Coupled Rotor Nonlinear Dynamics and Chaotic Clock Models: a Paradi</i> Katia Stevanovic-Hedrih	MS6S_12601 <i>Intermittency in stratified turbulence produced by breaking internal gravity waves</i> Pascale Bouruet-Aubertot	

15:25		SM17S_10779 <i>Stabilization by Rotating Rigid Bodies for Unstable Rotation of a Rigid Body with Cavities Containing a Fluid</i> Yuriy N. Kononov	MS6S_12722 <i>Measurements of the influence of ocean surface kinematics on air-sea heat fluxes</i> Farbice Veron	
15:30			MS6S_12776 <i>Linear waves and baroclinic instability in an inhomogeneous-density layered primitive-equation ocean model</i> Francisco J. Beron-Vera	

	SM19_S1 <i>Plates and shells</i> Chairperson: Wojciech Pietraszkiewicz (Poland) Room 134B	SM1_S1 <i>Computational solid mechanics</i> Chairperson: Katerina D. Papoulia (USA) Room 144	SM18_S1 <i>Plasticity and viscoplasticity</i> Chairperson: Giulio Maier (Italy) Room 160	SM2_S1 <i>Contact and friction mechanics</i> Chairperson: Leon M. Keer (USA) Room 206
14:30	SM19S_10071 <i>The stress analysis of the multilayered plates and shells with defects of the structure</i> Lvov G. I.	SM1S_10270 <i>Elastic - plastic large deformation analysis of 2d frame structure</i> Chung - Yue Wang	SM18S_10036 <i>A visco - plastic constitutive model for cyclic hardening materials and its finite element implementation</i> Guozheng Kang	SM2S_10100 <i>Non liner phenomena for stick - slip motion which take shape latent period of fretting - wear into nominal - fixed joints</i> Jurij I. Shalapko
14:35	SM19S_10583 <i>Nonlinear analyses of rhombic plates subjected to a concentrated load</i> Mei Duan	SM1S_10274 <i>Multiscale analysis of scattered elastic waves based on the lippmann - schwinger equation</i> Terumi Touhei	SM18S_10383 <i>Quasi rate - independent viscoplastic fcc - polycrystals</i> Milan Micunovic	SM2S_10211 <i>Thermocontact interaction of bodies of revolution during induction heating</i> Mykhaylo Pantelyat
14:40	SM19S_10770 <i>Analytical solution of bending of a clamped elliptical plate under lateral load and in - plane force</i> Kenzo Sato	SM1S_10396 <i>Flutter analysis of subsonic wing</i> A. Khelil	SM18S_10729 <i>A viscoplastic model for thermoplastic polymers under uniaxial monotonic and cyclic straining</i> Ghorbel Elhem	SM2S_10342 <i>Dynamic characteristics and monitoring of rubbing surfaces quality</i> Victor M. Musalimov
14:45	SM19S_11238 <i>Meshless lbie formulations for viscoelastic thin plates</i> Jan Sladek	SM1S_10829 <i>A dual particle computational method for continua</i> L.D. Libersky	SM18S_10734 <i>Advanced thermo - visco - plastic constitutive relations for direct applications in numerical analyses</i> Alexis Rusinek	SM2S_10459 <i>Contact mechanical analysis of elastic multibody structures</i> Herman Parland

14:50	SM19S_11711 <i>Asymptotic behavior of piezoelectric plates</i> Thibaut Weller	SM1S_11193 <i>Derivation of the higher - order stiffness matrix of a space frame element for geometric nonlinear analysis of structures</i> Jiann - Tsair Chang	SM18S_11185 <i>Energy storage rate in non - homogeneous deformation</i> Wiera Oliferuk	SM2S_10540 <i>Contact force distribution among pins of trochoid transmissions</i> Dzmitry O. Tsetserukou
14:55	SM19S_11815 <i>Effect of a 'static' resonance in elastic thin - walled cylinders</i> Maryna A. Varyanychko	SM1S_11202 <i>The method of solving of non - stationary coupled problems of the theory thermal - plasticity for the rotation shells</i> Pavlo A. Steblyanko	SM18S_11295 <i>Dynamic behavior of many - dislocation systems in silicon</i> Kazuwo Imai	SM2S_10999 <i>Modelling of contact of structured materials based on data from scanning probe microscopy</i> Sergey A.Chizhik
15:00	SM19S_11890 <i>Energy - conserving integration in six - field shell dynamics</i> Izabela Lubowiecka	SM1S_11291 <i>Effective solution for finite element problems with nonlinear constraints</i> Stanislaw A. Lukasiewicz	SM18S_11309 <i>The eshelby problem for elastic - viscoplastic materials</i> Alain Molinari	SM2S_11008 <i>A universal property of geometrical hardening</i> Graham J. Weir
15:05	SM19S_12046 <i>Beam theory for analysis of girders with corrugated steel webs</i> Chawalit Machimdamrong	SM1S_11334 <i>Two scale finite element method</i> George Mejak	SM18S_11344 <i>Multiscale modeling of the structure - property relationship for semicrystalline materials</i> J. A. W. van Dommelen	SM2S_11028 <i>Influence of acoustic waves on stability of sliding between two elastic solids</i> Yue-Sheng Wang
15:10	SM19S_12224 <i>Mindlin cylindrical panels with twist and double curvature</i> X. X. Hu	SM1S_11389 <i>Problems of application of hierarchical modelling, displacement FEM and a posteriori residual error estimation to static and dynamic adaptive analysis of complex structures</i> Grzegorz Zboinski	SM18S_11350 <i>Modeling of viscoplastic constitutive equation for polymers by taking into account strain recovery</i> Mamoru Mizuno	SM2S_11452 <i>Frictional contact with wear diffusion</i> Jozef Joachim Telega
15:15	SM19S_12328 <i>Application of the return mapping algorithm to perzyna viscoplasticity for plane stress</i> Zdzislaw Nowak	SM1S_11482 <i>Statics and kinematics of symmetric swelling viruses</i> Florian Kovacs	SM18S_11498 <i>Yield surfaces using an extension of the regularized Schmid law to polycrystalline materials</i> Stéphane Berbenni	SM2S_11481 <i>On the contact thermoelastic problem with frictional heating, wear and auto - vibrations</i> Jan Awrejcewicz
15:20	SM19S_12346 <i>A perturbation method for nonlinear vibrations of structures</i> E. L. Jansen	SM1S_11550 <i>Comparison of stress recovery and displacement recovery techniques in adaptive finite element simulation of sheet forming operations</i> Mohd. Ahmed		SM2S_11611 <i>Three-dimensional problem of the contact by doubly connected domain taking into account roughness and friction</i> Ganna Shyshkanova

15:25		SM1S_11580 <i>A numerical approach for large - scale computation CEM</i> Jixin Yang		
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	MS1_S1 <i>Smart materials and structures</i> Chairperson: Wieslaw M. Ostachowicz (Poland) Room 208	SM13_S1 <i>Mechanics of composites</i> Chairperson: Zbigniew Olesiak (Poland) Room 213	SM6_S1 <i>Elasticity</i> Chairperson: Iwona M. Jasiuk (USA) Room 215	SM25_S1 <i>Structural vibrations</i> Chairperson: Stanislaw Radkowski (Poland) Room 219
14:30	MS1S_10136 <i>Composite plates with active fibres</i> Mieczyslaw S. Kuczma	SM13S_11895 <i>H-convergence and multilayering in piezocomposites</i> Barbara Gambin	SM6S_10442 <i>On invariants of the elasticity tensor for orthotropic materials</i> Katarzyna Kowalczyk-Gajewska	SM25S_12890 <i>Vibration of the train/track system with two types of sleepers</i> Roman Bogacz
14:35	MS1S_10821 <i>Shape fixity and shape recovery of shape memory polymer and their applications</i> Hisaaki Tobushi	SM13S_10189 <i>Numerical Evaluation of Mixed Mode Delamination in a U.D. Glass/Epoxy Composite in 2D and 3D States</i> M. R. Khoshnavan	SM6S_10972 <i>Motion and stability of an elastic heavy top</i> Tsolo P. Ivanov	SM25S_10221 <i>Dynamics of Beck's column via nonlinear normal modes</i> Dimitris S. Sophianopoulos
14:40	MS1S_10985 <i>Vibration control of stiffened plates with integrated piezoelectrics</i> Ji-Hwan Kim	SM13S_10483 <i>Effective properties of solids containing randomly distributed multi-phase spherical particles</i> Hossein M. Shodja	SM6S_11526 <i>On asymptotic method of static and dynamic boundary problems solution</i> Lenser A. Aghalovyan	SM25S_10656 <i>Non - linear stochastic vibration problems for the plates with time - dependent parameters</i> Victor Z. Gristchak
14:45	MS1S_11541 <i>Smart diagnosis the structural damages of buildings: fuzzy-genetic approach</i> Serhiy Shtovba	SM13S_10555 <i>Porous anisotropic composites under microfractures</i> Lidiya Nazarenko	SM6S_11598 <i>Exact nonlinear theory of bending and torsion of elastic rods</i> Leonid M. Zubov	SM25S_10750 <i>A multi - step transversal linearization method in nonlinear dynamics</i> Debasish Roy
14:50	MS1S_11752 <i>A geometrically non-linear finite shell element with piezoelectric layers</i> Sven Lentzen	SM13S_12242 <i>Thermal Residual Stress in Al₂O₃/SiC nano Ceramic Composites Measured by Nanoindenter</i> Zhong Ling	SM6S_11901 <i>Axisymmetric force solution for a semi - infinite cubic solid</i> Charles Ruimy	SM25S_10871 <i>Interaction of primary and internal 1:1 resonances in nonlinear symmetric 2DOF systems with cubic nonlinearities</i> Arkadiy I. Manevich

14:55	MS1S_11810 <i>Piezodiagnosics a new shm method and its potential engineering applications</i> Przemyslaw Kolakowski	SM13S_10745 <i>Three-dimensional transmission in plane layered elastic composites</i> Kanmi Aderogba	SM6S_11948 <i>Generalization of the eshelby method for solving elasticity problems with phase transformations and for piecewise homogeneous bodies</i> Efim I. Shifrin	SM25S_11712 <i>Dynamics of a rotor rolling along a circular surface</i> Alla D. Firsova
15:00	MS1S_11857 <i>Thermal - induced fracture of electroded piezoelectric composites</i> Cun-Fa Gao	SM13S_11507 <i>Evaluation of linearization procedures sustaining nonlinear homogenisation theories</i> Amna Rezik	SM6S_11949 <i>On calculating effective elastic properties of media with inclusions: asymptotic representations and areas of their applicability</i> Konstantin B. Ustinov	SM25S_11055 <i>Vibrorheology: main results, new problems</i> Ekaterina Shishkina
15:05	MS1S_12011 <i>Thermal buckling of active composite plates with shape memory alloy fibers</i> Rivka Gilat	SM13S_11176 <i>Overall properties of periodic biocomposites</i> Federico J. Sabina	SM6S_11960 <i>An exactly solvable microgeometry in torsion</i> Tungyang Chen	SM25S_11066 <i>Propagation analysis of flexural waves by wavelet transform</i> Akihiko Higashi
15:10	MS1S_12016 <i>Study of non - linear magnetomechanical constitutive relations of ferromagnetic materials</i> Daining Fang	SM13S_11426 <i>Electroelstic fields concentrations and polarization switching by circular electrodes in piezoelectric disk composites</i> Fumio Narita	SM6S_11998 <i>A new nonlinear constitutive relation for magnetostrictive materials</i> Xiaojing Zheng	SM25S_11079 <i>Bifurcations of damped nonlinear normal modes: linear oscillator with strongly nonlinear attachment</i> Oleg V. Gendelman
15:15	MS1S_12018 <i>Optimum control of thermoelastic deformation in a smart composite disk</i> Fumihiko Ashida	SM13S_11457 <i>Fuzzy set approach to modelling composite mechanical properties</i> Aleksander Muc	SM6S_12685 <i>Homogenization of Triply Periodic Elastic Media with Random Imperfections</i> Valeriy Buryachenko	SM25S_11338 <i>Stability of a rotor with periodically varying angular velocity</i> J. P. Meijaard
15:20	MS1S_12147 <i>Active control of fgm plates using distributed piezoelectric sensors and actuators</i> S. Narayanan		SM6S_12987 <i>On the Impact Law in Elastic Plate - Like Bodies</i> R. Sburlati	SM25S_11384 <i>Paradoxical behaviour of vibrating systems challenging rayleigh's theorem</i> Tibor Tarnai
15:25	MS1S_12385 <i>Transient analysis of piezoelectric plates with thermal effects</i> Francesco Ubertini		SM6S_12520 <i>Axisymmetric Problem for an Elastic Medium with a Spherical Inclusion When There Is a Crack at the Interface</i> Iryna V. Lebedyeva	SM25S_11716 <i>The new statement of problem of unbalance identification</i> Yuri L. Mehshikov

Tuesday, August 17

15:30	MS1S_12552 <i>On a model of layered piezoelectric beams including transverse interactions between different layers</i> J. Pouget			SM25S_11494 <i>Imperfection sensitivity of circular arch's non - linear modes</i> Carlos E. N. Mazzilli
15:35				SM25S_11536 <i>Optimal shapes of parametrically excited beams</i> Alexei A. Mailybaev
15:40				SM25S_12989 <i>Frictional auto - oscillations under the action of almost periodic and periodic excitations</i> Gayane V. Manucharyan
15:45				SM25S_11679 <i>Non trivial effect of strong high - frequency excitation on a nonlinear controlled system</i> Alexander Fidlin

	MS3_S1 <i>Mechanics of thin films and nanostructures</i> Chairperson: Min Zhou (USA) Room 219A	SM9_S1 <i>Fracture and crack mechanics</i> Chairperson: Krishnaswamy Ravi-Chandar (USA) Room 226	SM11_S1 <i>Impact and wave propagation</i> Chairperson: Martin Ostoja-Starzewski (Canada) Room 231	FM9_S1 <i>Environmental fluid dynamics</i> Chairperson: Herbert E. Huppert (UK) Room 237A
14:30	MS3S_10386 <i>A microstructural approach to the ballistic-diffusive heat transfer</i> Jan Sazczuk	SM9S_10250 <i>A fractal cohesive crack model</i> Michael P. Wnuk	SM11S_10426 <i>Nonlinear waves in shock - loaded solids</i> Nikolai N. Myagkov	FM9S_10651 <i>Parametrization of the micrometeorological tower's data through similarity theory of monin - obukhov and by gradient and profiles methods</i> Jose F. de Oliveira Junior
14:35	MS3S_11444 <i>Energy-based approach to limit states in nanostructures. calculation of the critical values of energy from first principles</i> Kinga Nalepka	SM9S_10334 <i>Influence of stress state on crack - tip driving force</i> Daniel Kujawski	SM11S_11242 <i>Nonlinear wave processes in a bi - layer</i> Karima R. Khusnutdinova	FM9S_10467 <i>Flow and dispersion in the atmospheric boundary layer investigation by physical modelling</i> Zbynek Janour

14:40	MS3S_11599 <i>Fracture criterious for bridged crack: from macro to nanoscale</i> Mikhail N. Perelmuter	SM9S_10419 <i>Size effect in tensile fracture of concrete - a study based on lattice model applied to ct - specimen</i> Remalli Vidya Sagar	SM11S_11403 <i>Cubically nonlinear waves in structured materials of macro-, micro- and nanoscale</i> Jeremiah Rushchitsky	FM9S_12590 <i>Computational modeling of the emission and distribution of gaseous toxic matters in the atmosphere</i> Y. A. Skob
14:45	MS3S_12181 <i>Investigation of wave propagation in multiwall</i> Sha Fenghuan	SM9S_10429 <i>Numerical and experimental study of the plastic zone in the vicinity of the crack tip by the optical caustics method</i> Octavian Pop	SM11S_11377 <i>Modeling of solitary impulses in a composite material using wavelet analysis</i> Kateryna V. Terletska	FM9S_12266 <i>Dynamics of separation zone behind the 2d hill in oscillating incident wind.</i> Jaroslaw Ciechanowski
14:50	MS3S_12251 <i>Homogenisation models of carbon nanocomposites mechanical properties</i> Malgorzata Chwal	SM9S_10579 <i>Thermoelastic problems for a bimaterial with defects/singularities</i> Vera E. Petrova	SM11S_11813 <i>Hidden and driven solitons in microstructured media</i> Andrus Salupere	FM9S_12738 <i>Joint urban 2003 surface energy budget measurements and analysis</i> J. E. Holeman
14:55	MS3S_12314 <i>Micro - and nano - mechanics of carbon nanotubes composites</i> Xi - Qiao Feng	SM9S_10646 <i>Dynamic crack analysis under thermal shock</i> Parissa Hosseini - Tehrani	SM11S_12203 <i>Waves of deformation propagation in nonlinear viscously elastic porous material</i> Vladimir I. Erofeyev	FM9S_12592 <i>High resolution modelling of atmospheric flow over southern poland</i> Zbigniew Piotrowski
15:00	MS3S_12432 <i>Instabilities of composite materials reinforced by nano-fibres : a re-examination of elastic buckling</i> Raymond Parnes	SM9S_13034 <i>Crack Arrest Model for Cracked Piezoelectric Plate - a Modified Dugdale Approach</i> Namita Saxena	SM11S_11989 <i>Self - consistent methods in the problem of elastic wave propagation through matrix composite matrials</i> Sergey K. Kanaun	FM9S_12980 <i>Nocturnal temperature inversions under calm clear conditions: an analytical study</i> A. S. Vasudeva Murthy
15:05	MS3S_12627 <i>A cellular automaton for modelling evolution of heteroepitaxial systems</i> Simon P. A. Gill	SM9S_10824 <i>Effect of inter - and intralaminar damage on the compressive fracture of hyperelastic materials</i> Igor A. Guz	SM11S_12514 <i>Dispersion and stability analysis of waves in pre - stressed imperfectly bonded layered composites</i> Anil C. Wijeyewickrema	FM9S_11294 <i>Modified shallow water equations for inviscid gravity currents</i> Falın Chen
15:10	MS3S_12718 <i>Effective thermoelastic properties of nanocomposites with prescribed random orientation of nanofibers</i> Ajit Roy	SM9S_10897 <i>Elastodynamics problems in domains with edges</i> N. F. Morozov	SM11S_11527 <i>Mathematical and numerical modeling of elastic - plastic waves in granular materials</i> Oxana V. Sadovskaya	FM9S_11703 <i>The propagation of viscous gravity currents over a rigid conic surface</i> A. A. Osipsov
15:15		SM9S_11045 <i>Weight functions for cracks in piezoelectrics</i> Andreas Ricoeur	SM11S_11853 <i>Thermo-mechanical wave propagation in materials with internal state variables</i> Witold Kosinski	

15:20		SM9S_11087 <i>Three - dimensional correction of two - dimensional fracture criteria using a constraint factor</i> Rimantas Kacianauskas		
15:25		SM9S_11195 <i>Elastodynamic contact problem for two penny - shaped cracks</i> Oleksandr V. Menshykov		
15:30		SM9S_11856 <i>Modeling of environment assisted delamination i. quasistatic case</i> Alla V. Balueva		

	FM4_S1 <i>Complex and smart fluids</i> Chairperson: Daniel A. Weiss (Germany) Room 304	FM10_S1 <i>Experimental methods in fluid mechanics</i> Chairperson: Jerry Westerweel (Netherlands) Room 305	FM14_S1 <i>Flow in thin films</i> Chairperson: Alex Oron (Israel) Room 305A	FM6_S1 <i>Computational fluid dynamics</i> Chairperson: Wolfgang Schroeder (Germany) Room 306
14:30	FM4S_11184 <i>Electrospinning of liquid jets</i> Slawomir Blonski	FM10S_10445 <i>On the evaporation of a monodisperse droplet stream at high - pressure</i> Grazia Lamanna	FM14S_10059 <i>Liquid film flow in conical capillary</i> N. P. Migoun	FM6S_10857 <i>Treesph simulations of choked flow systems using smoothed particle hydrodynamics</i> Jaime Klapp
14:35	FM4S_11603 <i>Contact angle dynamics of droplets impacting on flat substrates</i> Ilker S. Bayer	FM10S_11455 <i>Time-resolved wall shear stress measurements using mems</i> Valery G. Chernoray	FM14S_11413 <i>Linear response of a viscous liquid sheet</i> Norbert Alleborn	FM6S_10921 <i>Poloidal - toroidal decomposition in cylindrical von karman flow</i> Piotr Boronski
14:40	FM4S_11648 <i>Dissipation features at nonlinear pulsations of bubbles in viscoelastic fluids</i> Semyon P. Levitsky	FM10S_11505 <i>Experimental study of a supersonic mixing layer with an estimation of acoustic radiation</i> Mohamed Menaa	FM14S_11477 <i>Experimental and numerical study of marangoni - natural convection</i> Le Han Tan	FM6S_11763 <i>Fast numerical method for the boltzmann equation on nonuniform grids</i> Piotr Kowalczyk

14:45	FM4S_11982 <i>Effective magnetoviscosity for ferrofluid planar couette flow</i> Markus Zahn	FM10S_11916 <i>Comprehensive experimental and computational investigations of the unsteady flow in an axial flow low speed compressor stage</i> Andrzej S. Witkowski	FM14S_11739 <i>Amplification of nonlinear disturbances on a falling liquid sheet</i> Takao Yoshinaga	FM6S_11456 <i>Numerical simulation of the backward - facing step in a beowulf - class cluster</i> Rubens Campregher
14:50	FM4S_12319 <i>Nanowires assembly using microfluidic: an experimental investigation</i> Eyal Zussman	FM10S_12855 <i>Particle image velocimetry (piv) for cloud droplets - laboratory investigations</i> Piotr M. Korczyk	FM14S_12155 <i>Thin film flows near isolated humps and interior corners</i> Gregory P. Chini	FM6S_11485 <i>Development and paractical application of weno schemes for compressible fluid flow computations</i> Alexey N. Kudryavtsev
14:55	FM4S_12676 <i>Ferrohydrodynamic jets, sheet flows and instabilities</i> Thomas A. Franklin	FM10S_12213 <i>3d vortices structure monitoring in turbulent flows by digital speckle photography</i> Nikita A. Fomin	SM27_S1 <i>Viscoelasticity and creep</i> Chairperson: Fusahito Yoshida (Japan) Room 305A SM27S_12152 <i>Viscoelastic composites with unbounded overall stiffness and damping</i> Yun-Che Wang	FM6S_11569 <i>Numerical analysis and design optimization of lateral jet controlled missile</i> Jae-Woo Lee
15:00	FM4S_12689 <i>Ferrofluid meniscus shape in an applied uniform horizontal or vertical magnetic field</i> Se-Hee Lee	FM10S_12403 <i>Single - view super - resolution whole - field velocity and scalar mapping technique</i> Vladimir M. Zubtsov	SM27S_10018 <i>Nonlinear overall viscoelastic properties of the random multicomponent media</i> Boris P. Maslov	FM6S_11576 <i>Numerical prediction of energy dissipation in condensing</i> Tadeusz Chmielniak
15:05	FM4S_12894 <i>Non - newtonian effects of ink - jet printed droplets</i> Paul C. Duineveld	FM10S_12719 <i>Thermal-wave resonator cavity: modelling and applications for water mixtures</i> Anna Matvienko	SM27S_11981 <i>Multi - scale model for low - temperature creep of asphalt</i> Roman Lackner	FM6S_11702 <i>Numerical computation of compressible viscous flow through a male rotor - housing gap of screw compressors</i> Jan Vimmr
15:10	FM4S_12910 <i>Conditions for creating thin liquid layers at the contact surface of two other liquids</i> Agnieszka Slowicka	FM10S_12720 <i>Optical diagnosis systems for measuring thermofluidodynamicals phenomena in liquid biosystems under ultra high pressure</i> Antonio Delgado	SM27S_10254 <i>Inverse of constitutive equations of anisotropic hereditary elastic continua</i> Alexander M. Dumansky	FM6S_12076 <i>Dirichlet/Dirichlet and Neumann/Neumann Parallel Non-Overlapping Domain Decomposition Method</i> Slawomir Kubacki

15:15			SM27S_11786 <i>Creep damage anisotropy of thinwalled elements structures</i> Vyacheslav N. Burlayenko	FM6S_11937 <i>Computation of viscous vortices with fully meshless method</i> Lorena A. Barba
15:20			SM27S_11957 <i>An influence of cold work on creep of engineering materials</i> Zbigniew L. Kowalewski	FM6S_12618 <i>Investigation of WENO Scheme for 3D Unstructured Grids</i> Jerzy Majewski
				FM6S_12565 <i>Simulation of a Viscous Flow Past a Three Dimensional Obstacle Using Vortex Particles</i> Andrzej Styczek

	FM11_S1 <i>Flow control</i> Chairperson: Marek Morzynski (Poland) Room 307	FM21_S1 <i>Solidification and crystal growth</i> Chairperson: Gustav Amberg (Sweden) Room 307A	FM12_S1 <i>Flow in porous media</i> Chairperson: Anthony Ladd (USA) Room 308	FM16_S1 <i>Fluid mechanics of suspension</i> Chairperson: Roger T. Bonnecaze (USA) Room 308A
14:30	FM11S_10128 <i>Liquids: the holy grail of microfluidics modeling</i> Mohamed Gad-el-Hak	FM21S_11058 <i>Experimental observations of hydrate formation in a convection tank</i> C. F. Chen	FM12S_10548 <i>Instability and dynamic chaos of non-equilibrium filtration of gaseous liquid</i> Guzel T. Bulgakova	FM16S_10248 <i>Effective viscosity of an inhomogeneous dilute suspension flowing along a wall</i> Francois Feuillebois
14:35	FM11S_10872 <i>Active control of shock/boundary layer interaction in transonic flow over airfoils</i> Ramesh K. Agarwal	FM21S_11208 <i>Morphological stability of directional solidification under temperature modulations</i> C. A. Chung	FM12S_11115 <i>P - waves behavior at transition from liquid to gas - saturated porous media</i> Dmitry N. Mikhayalov	FM16S_12056 <i>Mobility of membrane - trapped particles: protrusion into the surrounding fluid</i> Howard A. Stone
14:40	FM11S_11043 <i>Manipulating a vee - shaped bluff body wake using a fluidic oscillator</i> Rong F. Huang	FM21S_13008 <i>Convective instabilities during solidification of a mushy layer</i> Chang K. Choi	FM12S_11248 <i>Nonstationary flow of stokesian fluid through elastic skeleton with hierarchical structure</i> Wlodzimierz R. Bielski	FM16S_11236 <i>Sedimentation of dilute suspensions</i> B. U. Felderhof
14:45	FM11S_11918 <i>Control of internal supersonic flow separation</i> Andrzej Szumowski	FM21S_11331 <i>Ahp setup for low laminar melt flow study in crystal growth</i> Michael A. Gonik	FM12S_11323 <i>Non - stationary heat and liquid transport in capillary - porous materials during intensive microwave heating</i> Alexander L. Adamovich	FM16S_11409 <i>Relaxation time for sedimenting spheres of a suspension with periodic boundary conditions</i> Maria L. Ekiel - Jezewska

14:50	FM11S_12244 <i>Control of flow oscillations over a cavity by means of a spanwise cylinder</i> Illy Herve	FM21S_11362 <i>Optimization of the growth conditions of a cylindrical bar</i> Liliana Braescu	FM12S_11342 <i>Non - stationary flow of flexible chain polymer solutions in porous medium</i> Iryna Fedorkina	FM16S_11431 <i>A mode - mode coupling scheme of colloidal electrolyte friction</i> Gerhard Naegele
14:55	FM11S_12258 <i>Synthetic jet actuation at the resonance frequency</i> Zdenek Travnicek	FM21S_11364 <i>Front tracking technique on a fixed grid in modelling of binary mixture solidification with natural convection</i> Jerzy Banaszek	FM12S_11487 <i>A joule-thomson process of a wetting fluid near saturation</i> Thomas Loimer	FM16S_11588 <i>Spreading fronts and fluctuations in sedimentation: part i experiments</i> Elisabeth Guazzelli
15:00	FM11S_12491 <i>Reduction of aerodynamic noise induced by flow over a cavity</i> Seiichiro Izawa	FM21S_12276 <i>Boundary - layer analysis of chimney structures in mushy layers</i> Jacqueline Ashmore	FM12S_12456 <i>Advances in mathematical modeling of hydraulic stimulation of the hot dry rock geothermal reservoir</i> Sergei A. Fomin	FM16S_11725 <i>Constant force and constant velocity momentum tracers in concentrated suspensions</i> Alan L. Graham
15:05	FM11S_12602 <i>Control of turbulent streaks by active wall movement</i> Philippe Konieczny	FM21S_12278 <i>Travelling magnetic field influence on crystal growth by bridgman method</i> Irina S. Fayzrakhmanova	FM12S_12528 <i>Oscillatory modes of adsorption in the flow of multicomponent systems</i> Liana Kovaleva	FM16S_11749 <i>Flow of a concentrated suspension down a rough plane</i> Cyril Cassar
15:10		FM21S_12768 <i>Ternary alloy convection in mushy layers: extended summary</i> Daniel M. Anderson	FM12S_12611 <i>Extended description of pore space structure and fluid flow through anisotropic porous materials</i> Mieczyslaw Cieszko	FM16S_12438 <i>The role of cohesive forces on the fluidization behavior of fine powders</i> A. Castellanos
15:15				FM16S_12452 <i>Single particle motion in colloidal dispersions</i> Ileana C. Carpen
15:20				FM16S_12585 <i>Gravity waves in fluidized suspension</i> Georges Gauthier

	MS2_S1 <i>Tissue, cellular and molecular biomechanics</i> Chairperson: Tomasz Lekszycki (Poland) Room 309	FM8_S1 <i>Drops and bubbles</i> Chairperson: L. Gary Leal (USA) Room 315	MS4_S1 <i>Microfluids</i> Chairperson: Patrick Tabeling (France) Room 315A	FM13_S1 <i>Flow instability and transition</i> Chairperson: Laurette Tuckerman (France) Room 327
14:30	MS2S_10838 <i>Travelling waves in a model of skin pattern formation</i> Kazimierz Piechor	FM8S_10580 <i>Method for solving nonlinear problems on unsteady free - boundary flows</i> Yuriy A. Semenov	MS4S_10971 <i>Water flows in copper and quartz nanochannels</i> Anna Kucaba-Pietal	FM13S_10917 <i>Stability of stratified shear flows with a monotonic velocity profile without inflection points</i> Semen M. Churilov
14:35	MS2S_11102 <i>Mechanics of elastic and viscous magnetic filaments</i> Andrejs Cebers	FM8S_11855 <i>Viscous extensional flow and drop break-off under gravity</i> Ernest O. Tuck	MS4S_11400 <i>Transition thresholds in microchannels under the EDL effect</i> Huan Shiu	FM13S_10188 <i>Shear layer instability and frequency modes inside an open cavity</i> Francois Lusseyran
14:40	MS2S_11148 <i>Intracellular control mechanisms of cardiac contraction & energetics</i> Samuel Sideman	FM8S_11670 <i>Water mist behavior as flame suppressant</i> M. T. Parra	MS4S_12047 <i>Using microfluidics to investigate reaction-diffusion phenomena in simple flows</i> Laure Menetrier	FM13S_12150 <i>A new convective instability with growth normal to a boundary layer</i> J.J. Healey
14:45	MS2S_12059 <i>Models of hair cell bundle functioning</i> Alexander V. Kondrachuk	FM8S_11026 <i>Bubble wall interaction and bubble pairs motion using potential flow theory</i> M. Moctezuma	MS4S_12130 <i>Magnetic particles aggregation in the presence of a hydrodynamic shear</i> Guillaume Degre	FM13S_12711 <i>Fully nonlinear global modes and transition to turbulence in open flows</i> Jean - Marc Chomaz
14:50	MS2S_12100 <i>Anisotropic hyperelastic and pseudo-hyperelastic materials and applications to soft tissue modelling</i> Stanislaw Jemioło	FM8S_11250 <i>Locomotion of a viscous drop, induced by the internal secretion: boundary effects</i> Olga M. Lavrenteva	MS4S_12361 <i>Transport coefficients of a fluid at nanoscale</i> Xiao-Bing Mi	FM13S_11971 <i>On the nature of virial liapunov functional in hydrodynamic instability</i> V. A. Vladimirov
14:55	MS2S_12192 <i>Molecular dynamics study of permeation process of small molecules through a lipid bilayer</i> Taisuke Sugii	FM8S_11299 <i>Occurrence of micro - bubbles during the coalescence of two bubbles</i> Teruo Kumagai	MS4S_12536 <i>Chaotic mixing and resonances in a microfluidic system</i> Caroline Jullien	FM13S_12291 <i>Nonlinear stability of rotating channel flow</i> M. Nagata

15:00	MS2S_12453 <i>A particle method computer simulation of blood flow</i> Ken-ichi Tsubota	FM8S_11405 <i>Experimental and theoretical description of a rotating liquid jet</i> Stephen Decent	MS5_S1 <i>Microgravity flow phenomena</i> Chairperson: G. Paul Neitzel (USA) Room 315A MS5S_10980 <i>Heat transfer due to high frequency vibration: a new approach for achieving thermally optimum geometry under microgravity conditions</i> M. C. Charrier Mojtabi	FM13S_12766 <i>Stability of plane poiseuille flow and energy growth in the case of a bingham fluid</i> Cherif Nouar
15:05	SM22_S1 <i>Stability of structures</i> Chairperson: Dinar R. Camotim (Portugal) Room 309 SM22S_10378 <i>Shallow spherical caps under external pressure</i> J. Blachut	FM8S_11669 <i>Main factors controlling the emulsification process under turbulent conditions. experiment and data interpretation</i> Slavka S. Tcholakova	MS5S_11483 <i>Thermocapillary convection in liquid bridges and annuli</i> Abdelfattah Zebib	FM13S_12280 <i>Influence of swirl vibrations on flow in long cylinder</i> Denis S. Goldobin
15:10	SM22S_12967 <i>Secondary bifurcations and localisation of buckle patterns</i> Ciprian D. Coman	FM8S_11448 <i>Bubble formation in a co - flowing air - water stream</i> A. Sevilla	MS5S_12765 <i>The stability of connected pendant drops</i> Lev A. Slobozhanin	FM13S_10487 <i>Nonlinear mechanics of wavy instability of steady longitudinal vortices and drag rise in boundary layer flow</i> J. T. C. Liu
15:15	SM22S_11172 <i>Nonlinear dynamic stability of multi - suspended roof systems</i> Ioannis G. Raftoyiannis	FM8S_11614 <i>Spreading and retraction of impacting drops</i> Christophe Josserand	MS5S_10958 <i>Hydrodynamic effect of slow phase transitions in microgravity</i> D.V. Yevdokymov	FM13S_12381 <i>Gortler vortex secondary stability: varicose mode</i> Leandro F. Souza
15:20	SM22S_11653 <i>Bifurcation buckling of sandwich plates and shells in plastic range</i> Suresh C. Shrivastava			FM13S_10185 <i>Instabilities in a taylor - dean open flow</i> Aomar Ait Aider
15:25	SM22S_12669 <i>The stiffness of prestressed frameworks: a unifying approach</i> Simon D. Guest			FM13S_12508 <i>Global stability of the flow induced by wall injection</i> Thierry Feraille

15:30	SM22S_12420 <i>Instabilities of initially stressed hyperelastic cylindrical membrane and shell under internal pressure</i> Djenane C. Pamplona			FM13S_13019 <i>Instability of the far wake behind a wind turbine</i> Jens N. Sorensen
15:35	SM22S_11962 <i>A unified treatment for the elastoplastic bifurcation of structural elements</i> Philippe Le Grogne			FM13S_10952 <i>Scaling with freestream fluctuations in the laminar - turbulent transition process</i> Rama Govindarajan
15:40	SM22S_12931 <i>On stability of systems subject to generalized follower force</i> Wlodzimierz Kurnik			FM13S_12598 <i>Supersonic boundary - layer response to freestream disturbances</i> S. Mahlmann

16:30 – 17:00 **Break**

17:00 – 19:00 **Lecture Sessions**

	17:00	17:20	17:40	18:00	18:20	18:40
FSM1_L1 <i>Acoustics</i> Chairperson: Iain D. J. Dupere (UK) Room 123	FSM1L_10907 <i>An empirical 'lower bound' on free-shear-flow noise</i> Jonathan B. Freund	FSM1L_11249 <i>Special short wave finite elements for flow acoustics</i> Jeremy Astley	FSM1L_11373 <i>3-d structural acoustics modeling with hp-adaptive finite elements</i> David S. Burnett	FSM1L_11561 <i>Shock leakage through a vortex-laden mixing layer causing jet screech</i> Takao Suzuki	FSM1L_12477 <i>A theoretical model for resonances in flow past a cavity</i> E. J. Kerschen	FSM1L_12497 <i>Structure of sonic booms in a medium with multiple relaxation modes</i> Paul W. Hammerton
SM19_L2 <i>Plates and shells</i> Chairperson: Herbert A. Mang (Austria) Room 124	SM19L_12606 <i>Parallel multilevel solution of large - scale nonlinear shell problems</i> Michael Gee	SM19L_12791 <i>A doubly curved element for laminated composite shells undergoing finite rotation</i> Hossain S. J.	SM19L_12792 <i>A new triangular element for the analysis of composite plates</i> P. Dey	SM19L_12838 <i>An natural hybrid - mixed model with shear projection for curved shells</i> Rezak Ayad		
SM1_L1 <i>Computational solid mechanics</i> Chairperson: Dimitri E. Beskos (Greece) Room 134	SM1L_10423 <i>Model updating a multicriteria optimization process in mechanics</i> Hans H. Muller-Slany	SM1L_10559 <i>Experiment and quasicontinuum simulation of nanoindentation in copper</i> Yuan Lin	SM1L_10665 <i>A bem solution to transverse shear loading of beams</i> Vasilios G. Mokos	SM1L_10728 <i>Mechanical features of piano hammer felt</i> Anatoli Stulov	SM1L_11154 <i>Mesh optimization for the quasicontinuum method: a generalization of vale</i> J. Knap	SM1L_12177 <i>Multiscale buckling analyses of corrugated fiberboard</i> Hirohisa Noguchi

	17:00	17:20	17:40	18:00	18:20	18:40
FSM2_L1 <i>Chaos in fluid and solid mechanics</i> Chairperson: Igor Mezic (USA) Room 144	FSM2L_10499 <i>The effect of smoothing on bifurcation and chaos computations in non-smooth mechanics</i> John S. Hogan	FSM2L_11183 <i>A set-valued force law for spatial coulomb-friction</i> Remco I. Leine	FSM2L_11363 <i>Numerical detection and continuation of sliding bifurcations in a dry-friction oscillator</i> P. Piironen	FSM2L_11535 <i>Low-dimensional chaotic dynamics in dripping faucets</i> Ken Kiyono	FSM2L_12129 <i>A dynamical systems analysis of the overturning of rigid blocks</i> Giuseppe Rega	FSM2L_12674 <i>Nonlinear dynamics of axially moving viscoelastic strings based on translating eigenfunctions</i> Li-Qun Chen
SM18_L2 <i>Plasticity and viscoplasticity</i> Chairperson: Piotr Perzyna (Poland) Room 206	SM18L_11820 <i>On the accounting of dislocation internal stress in continuum plasticity</i> Amit Acharya	SM18L_11886 <i>Mean field homogenization of elasto-(visco) plastic composites: formulation for time-dependent and independent behaviors</i> Issam Doghri	SM18L_11963 <i>Strain gradient crystal plasticity incorporating grain boundary effects</i> Marc G. D. Geers	SM18L_12058 <i>Limit and shakedown analysis with decohesive effects</i> Dieter Weichert	SM18L_12339 <i>A constitutive law for glassy polymers and blends</i> F. Zairi	SM18L_10652 <i>Plastic properties identification with plural sharp indenters</i> Norimasa Chiba
SM13_L2 <i>Mechanics of composites</i> Chairperson: Jorn S. Hansen (Canada) Room 208	SM13L_11162 <i>Elastic interaction of multiple delaminations in laminated structures</i> Martin G. Andrews	SM13L_11180 <i>Damage tolerance of composite structures with thermal shield</i> Christophe Bouvet	SM13L_11387 <i>Can it be made? predicting the formability of textile composite components</i> Mike J. Clifford	SM13L_11610 <i>Three-dimensional thermoelastic analysis of plain weave glass/epoxy composites with cracks at cryogenic temperatures</i> Tomo Takeda	SM13L_11747 <i>Advanced beam model for fiber-bridging in unidirectional composite double-cantilever beam specimens</i> Andras Szekrenyes	SM13L_11782 <i>Interfacial jump conditions in strain-gradient plasticity and relations of hall-petch type</i> John R. Willis
SM14_L2 <i>Mechanics of phase transformations (jointly with IACM)</i> Chairperson: Alain L. Molinari (France) Room 213	SM14L_10088 <i>A numerical approach to martensitic phase transformations</i> Thomas Antretter	SM14L_11325 <i>High pressure mechanochemistry: conceptual multiscale theory and interpretation of experiments</i> Valery I. Levitas	SM14L_11395 <i>Modeling martensite transformation in the elasto-plastic material at finite strain</i> Shangping Chen	SM14L_10648 <i>Multiscale modeling of steels assisted by transformation-induced plasticity</i> Sergio Turteltaub	SM14L_12747 <i>Numerical analyses of the interaction classical plasticity – trip</i> Salem Meftah	SM14L_10046 <i>Temperature and strain rate effects on trip sheet steel. measurement of temperature by infrared thermograph</i> Wojciech K. Nowacki
SM11_L1 <i>Impact and wave propagation</i> Chairperson: Andrew N. Norris (USA) Room 219	SM11L_10072 <i>Surface waves on an impermeable boundary of a poroelastic medium</i> Bettina Albers	SM11L_11271 <i>Shock-induced surface waves in porous reservoirs</i> G. Chao	SM11L_12772 <i>Analysis and design of dispersive materials and structures</i> Mahmoud I. Hussein	SM11L_10612 <i>Critical time for acoustic waves in weakly nonlinear poroelastic materials</i> Wilmanski Krzysztof	SM11L_11085 <i>Non-destructive testing of wood by wave propagation</i> Istvan A. Veres	SM11L_12313 <i>Elastoplasticity of gravel protecting rockfall-endangered steel pipelines</i> Bernhard Pichler

	17:00	17:20	17:40	18:00	18:20	18:40
FM7_L1 <i>Convective phenomena</i> Chairperson: Hiroyuki Ozoe (Japan) Room 226	FM7L_10306 <i>Cellular compressible magnetoconvection: a mechanism for magnetic-field amplification and structuring</i> Alexander V. Getling	FM7L_11053 <i>Large - scale semi - organized structures in geophysical turbulent convection</i> Igor Rogachevskii	FM7L_11440 <i>Experimental studies of planetary core convection and dynamo processes</i> Jonathan M. Aurnou	FM7L_11972 <i>Sea convective motions driven by random buoyancy inputs</i> Bouche Vanda	FM7L_12126 <i>Thermochemical convection in two superimposed miscible viscous fluids</i> Michael Le Bars	FM7L_12168 <i>Nonlinear convective patterns in spherical rayleigh - benard systems</i> Xinhao Liao
SM4_L2 <i>Damage mechanics</i> Chairperson: Noël Challamel (France) Room 231	SM4L_11665 <i>Propagation of cracks in terms of continuum damage mechanics</i> Marcin Chrzanowski	SM4L_11228 <i>Damage and failure of brittle solids</i> Andrzej Litewka	SM4L_11379 <i>Damage quantification and simulation of flyer plate spallation and round notched tensile experiments</i> W. Richards Thissell	SM4L_12088 <i>Lifetime prediction with a damage model based on mixed-mode microcrack propagation</i> Henning Schuette	SM4L_11796 <i>Damage acquired anisotropy in elastic - plastic materials</i> Jacek J. Skrzypek	SM4L_10828 <i>Nonlocal constitutive model for impact damage in metals</i> George Z. Voyiadjis
FM26_L1 <i>Waves</i> Chairperson: Victor I. Shrira (UK) Room 306	FM26L_10245 <i>Unidirectional steep waves in wave tanks</i> L. Shemer	FM26L_10762 <i>Propagation and interactions of nonlinear internal gravity wave beams</i> T. R. Akylas	FM26L_10861 <i>Weak - turbulent theory of wind - driven sea</i> Vladimir E. Zakharov	FM26L_11081 <i>Contact-line effects on capillary-gravitywaves</i> Jose A. Nicolas	FM26L_11144 <i>The theory of travelling deformation waves and its applications in biomechanics, engineering, and geophysics</i> Anatoli I. Dobrolyubov	FM26L_11179 <i>The spacing of langmuir circulation in strong wavy shear</i> William R. C. Phillips
FM17_L1 <i>Granular flows</i> Chairperson: Isaac Goldhirsch (Israel) Room 309	FM17L_10959 <i>Gravity flow of a densely - packed granular material</i> Jean Rajchenbach	FM17L_13029 <i>Velocity Profiles During Granular Avalanches</i> Sylvain Courrech du Pont	FM17L_12445 <i>Evolution of internal structure of sheared dense granular flows: crystallization and history - dependent final states</i> J. C. Tsai	FM17L_11775 <i>Granular flows on a heap</i> Pierre Jop	FM17L_11883 <i>Undulations and ripples of a thin granular layer due to vertical vibration</i> Akiko Ugawa	FM17L_12883 <i>Transverse Motion, Segregation and Rotations in 2D Granular Flows</i> Renault Delannay
FM19_L1 <i>Magnetohydrodynamics</i> Chairperson: Krzysztof A. Mizerski (Poland) Room 315	FM19L_10025 <i>Migration and interaction of two conducting particles freely immersed in a liquid metal</i> Antoine Sellier	FM19L_10931 <i>Complementary experiments at the karlsruhe dynamo test facility</i> Ulrich Mueller	FM19L_11120 <i>Liquid metal flow under inhomogeneous magnetic field</i> Yurii Kolesnikov	FM19L_11124 <i>Small - scale motion in the core of the earth</i> P. A. Davidson	FM19L_11145 <i>Investigation of mhd processes in aluminium reduction cells</i> Yuriy I. Rudnev	FM19L_11429 <i>Magnetohydrodynamic instabilities of astrophysical jets</i> Hubert Baty

Tuesday, August 17

	17:00	17:20	17:40	18:00	18:20	18:40
FM12_L1 <i>Flow in porous media</i> Chairperson: Abdelkader Mojtabi (France) Room 327	FM12L_11109 <i>Plastic mass flow of sand under action of pore pressure gradient</i> Victor N. Nikolaevskiy	FM12L_12617 <i>Onset of convection for a miscible fluid in a porous medium</i> Robert Behringer	FM12L_12376 <i>Fractional model for solute spreading in randomly heterogeneous porous media</i> Marie-Christine Neel	FM12L_10234 <i>Dissolution in porous media: upscaling, instabilities and heterogeneity effects</i> M. Quintard	FM12L_11994 <i>Microscopic simulations of the dissolution of rock fractures</i> Piotr Szymczak	FM12L_10199 <i>Numerical investigation of convective regimes in a planar filtration convection problem</i> Vasiliy N. Govorukhin

Wednesday, August 18

8:30 – 10:30 Lecture Sessions

	8:30	8:50	9:10	9:30	9:50	10:10
SM10_L2 <i>Functionally graded materials</i> Chairperson: R. C. Batra (USA) Room 123	SM10L_12978 <i>Design of fgm bimorph piezo – actuators</i> Minoru Taya	SM10L_11177 <i>Asymptotic ananlysis of a stationary crack in a ductile functionally graded material</i> Dhirendra V. Kubair	SM10L_12665 <i>Topology optimization applied to the design of functionally graded material (fgm) structures</i> Emilio Carlos Nelli Silva	SM10L_12273 <i>Complex - variable methods applied to functionally - graded elastic plate problems</i> Arthur H. England	SM10L_10045 <i>Dynamic stability of functionally graded plate under in - plane compression</i> Andrzej Tylikowski	SM10L_12093 <i>Actuator and sensor modelling for laminated piezoelectric plates</i> Joel Pouget
FSM6_L1 <i>Multiscale phenomena in mechanics</i> Chairperson: Christian Miehe (Germany) Room 124	FSM6L_11224 <i>Multi - scaling approach in the mechanics of disordered materials</i> Alberto Carpinteri	FSM6L_11471 <i>A geometrical theory of discrete dislocations in lattices, with applications to dislocation dynamics and crystal plasticity</i> M. P. Ariza	FSM6L_11476 <i>Stress - defect interactions at molecular / continuum scales</i> Krishna Garikipati	FSM6L_11806 <i>Deterministic size effect in the strength of cracked quasi - brittle structures</i> B. L. Karihaloo	FSM6L_11830 <i>Multi - scale second - order computational homogenization of heterogeneous materials</i> V. Kouznetsova	FSM6L_11862 <i>Jumping of a spinning spheroid</i> Yutaka Shimomura

	8:30	8:50	9:10	9:30	9:50	10:10
SM1_L2 <i>Computational solid mechanics</i> Chairperson: Ellen Kuhl (Germany) Room 134	SM1L_11298 <i>Lingopti project: semi - continuous casting process of copper - nickel alloys</i> Etienne Pecquet	SM1L_11629 <i>Bridging scale methods for nano mechanics and materials</i> Wing Kam Liu	SM1L_11720 <i>Some investigations on fm bem in solid mechanics</i> Zhenhan Yao	SM1L_11769 <i>Radial - type approximation technique for a space - time multiscale computational strategy</i> Anthony Nouy	SM1L_11797 <i>An energy conserving scheme for time dependent problems using the extended finite element method</i> J. Rethore	SM1L_11817 <i>Development of a novel 'crack' finite element for propagation simulation</i> Seyoung Im
SM24_L2 <i>Structural optimization</i> Chairperson: Niels Olhoff (Denmark) Room 144	SM24L_11744 <i>Optimization of beam properties with respect to maximum band-gap</i> Soeren Halkjaer	SM24L_11760 <i>Optimal layout of two materials within the core layer of a sandwich plate. relaxed formulation and its computational algorithm</i> Slawomir Czarnecki	SM24L_11826 <i>Material cloud method for topology optimization</i> Su - Young Chang	SM24L_11936 <i>On separation of eigenfrequencies in two - material structures</i> Niels L. Pedersen	SM24L_12098 <i>Structural optimization of composite shell structures using a discrete constitutive parameterization</i> Erik Lund	SM24L_12079 <i>Compliant Mechanism Design for Adaptive Trailing Edge Flaps</i> Thomas Buhl
FM5_L1 <i>Compressible flow</i> Chairperson: Hans G. Hornung (USA) Room 206	FM5L_10531 <i>Hysteresis - related phenomena in shock wave reflection</i> Mikhail Ivanov	FM5L_10789 <i>Nonclassical dynamics of laminar dense gas boundary layers</i> Alfred Kluwick	FM5L_11049 <i>Unsteady drag force measurements of shock loaded bodies suspended in a vertical shock tube</i> Kazuyoshi Takayama	FM5L_11072 <i>Shock wave reflection in a non - circular inlet</i> Beric W. Skews	FM5L_11730 <i>The mach reflection of weak shocks</i> John K. Hunter	FM5L_12997 <i>Shock wave - boundary layer interaction control by streamwise vortices</i> Ryszard Szwaba
SM13_L3 <i>Mechanics of composites</i> Chairperson: Norman A. Fleck (UK) Room 208	SM13L_11794 <i>A study of particle debonding with anisotropy</i> Brian Nyvang Legarth	SM13L_11805 <i>Nonlinear affine extension of the three-phase sphere model</i> Emmanuelle Chabert	SM13L_11879 <i>Three-dimensional analytical and semi-analytical investigation of free-corner effects</i> Christian Mittelstedt	SM13L_12141 <i>On the role of inter-granular layers in polycrystalline ceramics</i> Stephen Hardy	SM13L_12148 <i>A homogenization based laminated beam theory</i> Jorn S. Hansen	SM13L_12214 <i>Compressive strength of fiber composite with porosity</i> Ulrik Borg
SM12_L1 <i>Material instabilities</i> Chairperson: Davide Bigoni (Italy) Room 213	SM12L_12025 <i>Ultrastiff elastic composites via negative stiffness inclusions, and material stability implications</i> Walter J. Drugan	SM12L_11432 <i>Computational characterization of micro - to macroscopic mechanical behavior of carbon black - filled rubber</i> Yoshihiro Tomita	SM12L_11705 <i>Material instabilities of fiber - reinforced nonlinearly elastic solids</i> Jose Merodio	SM12L_12751 <i>Strain localization at the brittle - ductile transition of the earth's continental crust.</i> Yves M. Leroy	SM12L_10265 <i>Material instabilities in thermo - mechanical processes</i> Ahmed Benallal	SM12L_10996 <i>Incremental energy minimization in material instagbility problems</i> Henryk Petryk

	8:30	8:50	9:10	9:30	9:50	10:10
SM2_L1 <i>Contact and friction mechanics</i> Chairperson: Gwidon Szefer (Poland) Room 219	SM2L_11215 <i>Fundamental relations for frictional and adhesive nanoindentation tests</i> Leon M. Keer	SM2L_11365 <i>Hertz contact at finite friction and arbitrary profiles</i> Denis Elaguine	SM2L_11196 <i>Adhesive component of the rolling friction force</i> Irina Goryacheva	SM2L_11135 <i>Molecular adhesive contact for indenters of non - ideal shapes</i> Feodor M. Borodich	SM2L_12646 <i>Second - order cone complementarity formulation for quasi-static incremental frictional contact problem in three - dimensional space</i> A. Pinto da Costa	SM2L_10686 <i>Existence and uniqueness of steady state solutions in thermoelastic contact with frictional heating</i> L.-E. Andersson
SM25_L1 <i>Structural vibrations</i> Chairperson: Jon J. Thomsen (Denmark) Room 226	SM25L_10408 <i>Experimental study of nonlinear energy pumping</i> Alexander F. Vakakis	SM25L_10470 <i>Nonlinear vibrations of jeffcott rotor with preloaded snubber ring</i> Marian Wiercigroch	SM25L_10863 <i>Equivalent stochastic linearization as an alternative to solving the fokker - planck equation</i> Stephen H. Crandall	SM25L_11082 <i>Effect of root flexibility on the aeroelastic analysis of a composite wing box</i> Gamal M. Ashawesh	SM25L_11090 <i>Nonlinear effects, observed in the process of the liquid flowing out of the vibrating vessels: theory, experiment and applications</i> I. I. Blekhman	SM25L_11246 <i>Reanalysis of an sea high - frequency vibration calculation based on the vtrc</i> Herve Riou
SM4_L3 <i>Damage mechanics</i> Chairperson: Marcin Chrzanowski (Poland) Room 231	SM4L_12913 <i>Anisotropic damage model for concrete including unilateral effects</i> V. Godard	SM4L_12116 <i>A micromechanically based network model for rubbery polymers incorporating mullins - type stress softening</i> Serdar Goektepe	SM4L_12341 <i>Coupled meso-macro simulation of masonry cracking</i> T.J. Massart	SM4L_12749 <i>Coupling between progressive damage and permeability of concrete</i> George Chatzigeorgiou	SM4L_11414 <i>Discrete models and their application in damagemechanics</i> Ekkehard Ramm	SM4L_12036 <i>A new energy - based elastoplastic damage model for concrete</i> Jianying Wu
FM26_L2 <i>Waves</i> Chairperson: W. Kendall Melville (USA) Room 306	FM26L_11199 <i>Experiments on rotating and reflecting internal wave beams</i> Thomas Peacock	FM26L_11230 <i>Spatio - temporal measurements of capillary - gravity waves</i> Paul A. Hwang	FM26L_12089 <i>Generalized internal solitary waves and fronts</i> Frederic Dias	FM26L_11548 <i>Three dimensional gravity water waves</i> Walter Craig	FM26L_11746 <i>Transverse instability of surface solitary waves</i> Takeshi Kataoka	FM26L_11803 <i>A lagrangian approach to wave - induced oceanic mass transport</i> Jan Erik Weber
FM24_L1 <i>Turbulence</i> Chairperson: Robert D. Moser (USA) Room 309	FM24L_10149 <i>Large eddy simulations of decaying rotating turbulence</i> Andrzej J. Domaradzki	FM24L_10455 <i>Large - eddy simulation of shock - wave / turbulent - boundary - layer interaction</i> M. S. Loginov	FM24L_12151 <i>Inertial similarity of velocity distributions in homogeneous isotropic turbulence</i> Tomomasa Tatsumi	FM24L_12436 <i>Nonlinear Scale - Free Cascades and Their Stationary Spectra</i> Hassan Aref	FM24L_10564 <i>PDF computation of turbulent flows with a new near - wall model</i> Marta Wacławczyk	FM24L_11802 <i>The Cellular Structure and Its Tracks of a H2/O2/Ar Detonation Waves</i> Xiangyu Hu

	8:30	8:50	9:10	9:30	9:50	10:10
FM13_L1 <i>Flow instability and transition</i> Chairperson: Patrick Huerre (France) Room 315	FM13L_10313 <i>Travelling waves and transition to turbulence in pipe flow</i> Bruno Eckhardt	FM13L_10489 <i>Stability of flow in a rough channel</i> J.M. Floryan	FM13L_10525 <i>Stability of lagrangian ideal flows</i> Stephane Leblanc	FM13L_10640 <i>Instability thresholds of flow between exactly counter - rotating disks</i> L. S. Tuckerman	FM13L_10916 <i>Transient growth in developing plane and hagen poiseuille flow</i> Peter W. Duck	FM13L_11186 <i>Three-dimensional global modes in spatially varying rayleigh-benard-poiseuille convection</i> Denis Martinand
FM22_L1 <i>Stirring and mixing</i> Chairperson: Emmanuel Villermaux (France) Room 327	FM22L_12442 <i>Mixing in multiconnected planar domains</i> Philip Boyland	FM22L_10497 <i>Chaotic advection in a mixer with changing geometry</i> Stephen M. Cox	FM22L_12257 <i>Evaluation of transport properties by exchange matrix method</i> Tatyana S. Krasnopolskaya	FM22L_11293 <i>On the design of 3d micromixers having the bernoulli property</i> Stephen Wiggins	FM22L_12158 <i>Chaotic advection and mixing in pulsed source-sink systems</i> Mark A. Stremler	FM22L_12761 <i>Active shear superposition micromixer</i> Frederic Bottausci

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

	11:00	11:20	11:40	12:00	12:20	12:40
SM7_L1 <i>Experimental methods in solid mechanics</i> Chairperson: Tadeusz Uhl (Poland) Room 123	SM7L_10492 <i>An optical strain rosette/ring - core method applied on laser weld</i> Keyu Li	SM7L_12272 <i>Phase transitions and mechanical properties of ternary chalcogenides</i> Vsevolod V. Shchennikov	SM7L_12551 <i>Shpb technique for identification of complex modulus under condition of non - uniform stress</i> S. Mousavi	SM7L_10691 <i>Estimation of principal axes of inertia</i> Masashi Sato	SM7L_11622 <i>Investigation into variable contact load effects on fretting fatigue behaviour of ti-6al-4v</i> S. Mall	SM7L_10873 <i>Electromagnetic - resonance - ultrasound microscopy with isolated langasite oscillator for measuring local elastic constants of multi - phase solids</i> Jiayong Tian
FM9_L1 <i>Environmental fluid dynamics</i> Chairperson: Roddam Narasimha (India) Room 124	FM9L_10366 <i>The growth and structure of double - diffusive cells adjacent to a side - wall in a salt - stratified environment</i> O. M. Phillips	FM9L_11164 <i>Free surface behavior in turbulent open - channel flows</i> Hitoshi Miyamoto	FM9L_11182 <i>Integral and laboratory modelling of sedimentation from turbulent buoyant jets</i> Gregory F. Lane-Serff	FM9L_12410 <i>Experimental and numerical simulation of dense water overflows on a continental slope</i> Sabine Decamp	FM9L_12626 <i>Formation and rapid expansion of double diffusive layering in lake nyos</i> Alfred Wuest	FM9L_12072 <i>An alternative model for “pingo” formation in permafrost regions</i> James G. A. Croll

	11:00	11:20	11:40	12:00	12:20	12:40
SM1_L3 <i>Computational solid mechanics</i> Chairperson: Robert B. Haber (USA) Room 134	SM1L_12054 <i>Modelling of static and dynamic processes of nanoparticles interaction</i> Alexander V. Vakhrouchev	SM1L_12101 <i>Singularities of the four sided antiprism ring</i> Andras Lengyel	SM1L_12115 <i>Analysis of evolving deformation microstructures in instable inelastic solids based on energy relaxation methods</i> Ercan Guerses	SM1L_12131 <i>Microstructural behaviour of solder joints</i> Rene L. J. M. Ubachs)	SM1L_12167 <i>Molecular mechanics simulations of carbon nanostructures using multi-scale boundary conditions</i> Sergey N. Medyanik	SM1L_11211 <i>A new approach for the fe modelling of cohesive cracks</i> Julia Mergheim
FSM5_L1 <i>Mechanics of foams and cellular materials</i> Chairperson: Denis L. Weaire (Ireland) Room 144	FSM5L_10597 <i>Bubble shapes in foams: the importance of being isotropic</i> Sascha Hilgenfeldt	FSM5L_11095 <i>Mechanics of bidimensional liquid foams</i> Benjamin Dollet	FSM5L_11240 <i>Average n-hedra as descriptors of 3d network cells</i> Martin E. Glicksman	FSM5L_11663 <i>A Statistical Mechanics Theory of Random Honeycomb and Open - Cell Foam Structures</i> Alfonso H. W. Ngan	FSM5L_11605 <i>On the crushing response of open cell foams</i> Stelios Kyriakides	FSM5L_12052 <i>Dissipation in 2d foam flow</i> Isabelle Cantat
SM5_L1 <i>Dynamic plasticity of structures</i> Chairperson: Norman Jones (UK) Room 206	SM5L_11022 <i>Blast resistance of clamped sandwich beams</i> Vikram S. Deshpande	SM5L_11051 <i>Collision between two deformable structures</i> T. X. Yu	SM5L_11107 <i>Counterintuitive response of long circular tubes to axial impact</i> D. Karagiozova	SM5L_12043 <i>Self similar dynamic expansion of a spherical cavity in elastoplastic media</i> Rami Masri	SM5L_12949 <i>Numerical investigation of dynamic shear bands in inelastic solids as a problem of mesomechanics</i> Piotr Perzyna	SM5L_12982 <i>On non-axisymmetric collapse of thin tubes</i> N. K. Gupta
SM13_L4 <i>Mechanics of composites</i> Chairperson: Y. Jack Weitsman (USA) Room 208	SM13L_12321 <i>Composites with planar random fiber arrangements</i> Heinz E. Pettermann	SM13L_12496 <i>Thermal fatigue of mmc induced by laser heating</i> Shiguo G. Long	SM13L_12576 <i>An anisotropic damage model for the prediction of the degradation behaviour of novel textile reinforced composites</i> Robert Boehm	SM13L_12680 <i>Crack tunneling in laminates</i> Akke S. J. Suiker	SM13L_12818 <i>Study of the usability of various cruciform geometries for biaxial testing of fiber reinforced composites</i> Arwen Smits	SM13L_13009 <i>Analysis of Thick Laminated Panel With Piezoelectric Sensors Based on Three-Dimensional Theory of Elasticity</i> Ali Daneshmehr
SM11_L2 <i>Impact and wave propagation</i> Chairperson: Krzysztof Wilmanski (Germany) Room 213	SM11L_11360 <i>Trapping of plastic waves by adiabatic deformation</i> Janusz R. Klepaczko	SM11L_12481 <i>Impact fracture of rock materials due to percussive drilling action</i> Anton M. Krivtsov	SM11L_10114 <i>Bulk solitons do not decay in elastic wave guides</i> Alexander M. Samsonov	SM11L_12568 <i>On the propagation of solitary waves in microstructured solids</i> Olari Ilison	SM11L_10422 <i>Simultaneous simulation of dispersion curves and h/v spectra</i> Toshiro Maeda	SM11L_12281 <i>Modeling of oblique impact of yawed projectiles on ceramic targets</i> Vassili A. Gorelski

	11:00	11:20	11:40	12:00	12:20	12:40
SM2_L2 <i>Contact and friction mechanics</i> Chairperson: Irina G. Goryacheva (Russia) Room 219	SM2L_10718 <i>Fe analysis of bond for smooth frp rods embedded in concrete</i> Hamid Reza Irannejad	SM2L_11074 <i>Contact optimization problems associated with the wear process</i> Istvan Paczelt	SM2L_12086 <i>Experimental and analytical investigation of rubber friction</i> Markus Lindner	SM2L_11933 <i>Numerical modeling of contact fracture of elastoplastic cracked bodies</i> Alexandr A. Bobylov	SM2L_12553 <i>Boundary layers induced by contact of rough bodies</i> Stanislaw Stupkiewicz	SM2L_12559 <i>The accounting of surface roughness in contact of arbitrary shaped bodies using fem</i> Alexandr A. Olshevsky
SM25_L2 <i>Structural vibrations</i> Chairperson: Marian Wiercigroch (UK) Room 226	SM25L_11261 <i>Active control of disk brake squeal</i> Utz von Wagner	SM25L_11273 <i>Experimental and theoretical modal analysis of three support rotor test rig using lms cada-x and abaqus</i> Marcin Luczak	SM25L_11783 <i>Passive vibration control of a piecewise linear beam system</i> Rob H. B. Fey	SM25L_12322 <i>The running behaviour of an elastic wheelset</i> Ingo Kaiser	SM25L_12535 <i>Self - excited stick - slip oscillations of drag bits</i> Thomas Richard	SM25L_12593 <i>Vibration characteristics of the main tower, the byaon temple</i> Yoshikazu Sugiura
SM9_L2 <i>Fracture and crack mechanics</i> Chairperson: Nikita F. Morozov (Russia) Room 231	SM9L_11425 <i>Finite element analysis of fracture and polarization switching behavior in modified small punch testing of piezoelectric ceramics</i> Yasuhide Shindo	SM9L_11321 <i>Numerical approach for dynamic fracture in piezoelectric solids</i> Jose Dominguez	SM9L_12044 <i>Automatic 3d crack growth simulation based on boundary elements</i> Karsten Kolk	SM9L_11626 <i>Failure model of protective coatings</i> Asher A. Rubinstein	SM9L_10644 <i>On the simulation of the coating flaking off</i> Ghislain de Joussineau	SM9L_11484 <i>On crack assessment at bimaterial interfaces</i> Axel Mueller
FM14_L2 <i>Flow in thin films</i> Chairperson: Nuri Aksel (Germany) Room 306	FM14L_11509 <i>Layer thickness distribution of thin-film ink-jet printed structures.</i> Dirkjan B. van Dam	FM14L_10543 <i>Long - wave marangoni instability in binary - liquid films with solet effect</i> Alexander Oron	FM14L_13035 <i>Surfactant-Induced Fingering Phenomena in Thin Liquid Films</i> Barry Edmonstone	FM14L_12858 <i>Transient Displacement of Viscoelastic Liquids by Air</i> John Tsamopoulos	FM14L_10220 <i>Dynamics of a reactive falling film at large peclet numbers</i> Serafim Kalliadasis	FM14L_12293 <i>Gravity - and shear - driven thin films flow on heated hicrostructured walls</i> Tatiana Gambaryan-Roisman
FM17_L2 <i>Granular flows</i> Chairperson: Robert P. Behringer (USA) Room 309	FM17L_10253 <i>Impact</i> Detlef Lohse	FM17L_11876 <i>Collapse, growth and merging of cavity regions in a granular material due to viscous flow</i> O. Sano	FM17L_10524 <i>Granular column collapse</i> Herbert E. Huppert	FM17L_12308 <i>Kinetics of weakly frictional granular gases</i> Isaac Goldhirsch	FM17L_12399 <i>Extended granular temperature</i> Lou Kondic	FM17L_11751 <i>Pore pressure relaxation during granular compaction</i> Maxime Nicolas

Wednesday, August 18

	11:00	11:20	11:40	12:00	12:20	12:40
FM13_L2 <i>Flow instability and transition</i> Chairperson: J.M. Floryan (Canada) Room 315	FM13L_11396 <i>Elliptical instability in a rotating spheroid</i> Laurent Lacaze	FM13L_11461 <i>The instability of a localized vortex disturbance in uniform shear flow</i> Jacob Cohen	FM13L_11647 <i>Subcritical transition to turbulence in plane couette flow</i> Maher Lagha	FM13L_11995 <i>Three - dimensional vortex breakdown in swirling jets and wakes</i> E. Meiburg	FM13L_12233 <i>By-pass laminar - turbulent transition of the wind - driven free surface flow</i> Guillemette Caulliez	FM13L_12250 <i>Large - eddy simulation of the transitional flow in natural convection in a horizontal annulus</i> Aristeu Silveira - Neto
FM2_L1 <i>Boundary layers</i> Chairperson: Herbert Steinrueck (Austria) Room 327	FM2L_12241 <i>A combined numerical and asymptotic approach to boundary layer receptivity problems</i> Matthew R. Turner	FM2L_10275 <i>3d distributed boundary - layer receptivity to non - stationary free - stream vortices in presence of surface roughness</i> Y. S. Kachanov	FM2L_11887 <i>Why do dolphins have cutaneous ridges?</i> Peter W. Carpenter	FM2L_12631 <i>Aspects of the laminar-turbulent transition in axisymmetric boundary layers</i> N. Vinod	FM2L_11083 <i>Non - unique quasi - equilibrium turbulent boundary layers</i> Bernhard Scheichl	FM2L_12320 <i>Flow along a long thin cylinder</i> Owen. R. Tutty

13:00 – 14:30 **Lunch**

14:30 – 22:00 **Excursions**

Thursday, August 19

8:30 – 9:30 **Sectional Lectures**

	8:30
Chairperson: J. Grue (Norway) Room 134	SL8I_10544 <i>Nonlinear dynamics in ocean engineering</i> Edwin Kreuzer
Chairperson: J. Westerweel (Netherlands) Room 208	SL18I_10495 <i>Scaling in quasi-2D turbulence experiments in a rotating flow</i> Harry L. Swinney

	8:30
Chairperson: B. Schrefler (Italy) Room 219	SL9I_10508 <i>A bridge between the micro - and mesomechanics of laminates: fantasy or reality</i> Pierre J. Ladeveze
Chairperson: E. Guazzelli (France) Room 306	SL4I_12160 <i>Suspensions: from micromechanics to macroscopic behavior</i> John F. Brady
Chairperson: R. Kienzler (Germany) Room 309	SL12I_10143 <i>Mechanics of rubberlike solids</i> Raymond W. Ogden
Chairperson: S. Drobniak (Poland) Room 315	SL6I_13003 <i>Variational and multiscale methods in turbulence</i> Thomas J. R. Hughes

9:30 – 10:30 Lecture Sessions

	9:30	9:50	10:10
FM18_L1 <i>Low-Reynolds-number flow</i> Chairperson: Robert H. Davis (USA) Room 123	FM18L_10983 <i>Free surface deformation in suspensions near a rotating rod</i> L. A. Mondy	FM18L_11460 <i>Microcavitation and detachment of a stokes particle in near - wall slow motion</i> A. N. Prokunin	FM18L_10565 <i>Hydrodynamic Interaction of a Spherical Particle in Poiseuille Flow Between Planar Walls</i> R. B. Jones
FSM4_L1 <i>Fluid-structure interaction</i> Chairperson: Andrzej Herczynski (USA) Room 124	FSM4L_11736 <i>The hydroelastic destabilisation of finite compliant panels</i> Anthony D. Lucey	FSM4L_11078 <i>Nonlinear dynamics of pinned-pinned cylinders in axial flow</i> Michael P. Paidoussis	FSM4L_12896 <i>Incompressible flow with elastic filaments using moving overset grids</i> Petri Fast
MS6_L3 <i>Atmosphere and ocean dynamics</i> Chairperson: Onno Bokhove (Netherlands) Room 134	MS6L_12210 <i>Generation of internal waves in the deep ocean by barotropic tides</i> Jonas Nycander	MS6L_12294 <i>Instability of corotating vertical vortices in a stratified fluid : why strongly stratified turbulence is not similar to 2d turbulence</i> Pantxika Otheguy	MS6L_12494 <i>Multiple jet formation in a convectively driven flow on a beta – plane</i> Peter L. Read
FSM5_L2 <i>Mechanics of foams and cellular materials</i> Chairperson: Stelios Kyriakides (USA) Room 144	FSM5L_12212 <i>Surfactant and protein foams : differences in drainage and rheology</i> Arnaud Saint-Jalmes	FSM5L_12373 <i>Determining stress during finger propagation in 2d foams</i> Adrian D. Staicu	FSM5L_12851 <i>The dispersion of particles within foams</i> S.J. Neethling

	9:30	9:50	10:10
FM10_L1 <i>Experimental methods in fluid mechanics</i> Chairperson: Alfred Leder (Germany) Room 206	FM10L_11899 <i>Hpiv using polarization multiplexing holography in bacteriorhodopsin (br)</i> J. Westerweel	FM10L_11909 <i>Void collapse and jet formation: the impact of a disk on a water surface.</i> Raymond Bergmann	FM10L_12070 <i>Experimental detection of the new phenomenon of turbulent thermal diffusion</i> Tov Elperin
MS1_L2 <i>Smart materials and structures</i> Chairperson: Cun-Fa Gao (Japan) Room 208	MS1L_10784 <i>Transient eigenstrains without incremental displacements in a hyperelastic body</i> Hans Irschik	MS1L_13007 <i>Direct identification of the state equation in complex nonlinear systems</i> Andrew W. Smyth	MS1L_13015 <i>The Concept of Multifoldig and Its Experimental Validation</i> Piotr Pawlowski
SM12_L2 <i>Material instabilities</i> Chairperson: Henryk Petryk (Poland) Room 213	SM12L_11277 <i>On convexity conditions in spatial and material settings of hyperelasticity</i> Paul Steinmann	SM12L_12682 <i>On the concept of “dynamic (in)stability of quasi - static paths”</i> Joao A. C. Martins	SM12L_11254 <i>Dynamics of perturbations and shear band instabilities</i> Bigoni Davide
SM14_L3 <i>Mechanics of phase tranformations (jointly with IACM)</i> Chairperson: Wojciech K. Nowacki (Poland) Room 219	SM14L_10434 <i>Macro-, meso- and micro - scopic metallo - thermo – mechanics</i> Tatsuo Inoue	SM14L_12421 <i>Numerical determination of diffusional transformation induced plasticity from computations of random microstructures</i> Fabrice Barbe	SM14L_11625 <i>Modeling of the microstructural evolution in cr-mo steels during tempering and hydrogen exposure</i> S. M. Schlogl
SM11_L3 <i>Impact and wave propagation</i> Chairperson: Janusz Klepaczko (France) Room 226	SM11L_12763 <i>Level - sets and mixed approaches for dynamic contact problems</i> Chokri Zammali	SM11L_12418 <i>Flaw identification by angle beam electromagnetic acoustic transducers</i> Toshihiko Sugiura	SM11L_10344 <i>Stress - focusing effect in a spherical zirconia inclusion with dynamically transforming strains</i> Toshiaki Hata
SM4_L4 <i>Damage mechanics</i> Chairperson: Andrzej Stachurski (Poland) Room 231	SM4L_10961 <i>Localized necking criterion based on acoustic tensor for materials with anisotropic damage</i> C. L. Chow	SM4L_11406 <i>Numerical analysis of nonlocal anisotropic continuum damage</i> Sabine Ricci	SM4L_12021 <i>Damage field identification using full - field displacement measurements</i> Francois Hild
FM11_L2 <i>Flow control</i> Chairperson: Jonathan B. Freund (USA) Room 306	FM11L_12068 <i>Separation control by stationary and time periodic lorentz forces</i> Tom Weier	FM11L_12624 <i>Model - based control of shear flows using low - dimensional galerkin - and vortex models</i> Mark Pastoor	FM11L_12736 <i>Numerical analysis of the wake control behind a circular cylinder with oscillatory rotation</i> Marek Morzynski

	9:30	9:50	10:10
FM2_L2 <i>Boundary layers</i> Chairperson: Peter W. Duck (UK) Room 309	FM2L_11084 <i>Near critical unsteady three - dimensional triple deck flows</i> Stefan Braun	FM2L_11397 <i>Discontinuous solutions of the boundary - layer equations</i> Anatoly I. Ruban	FM2L_10103 <i>The development (and suppression) of very short-scale instabilities in buoyant boundary layers</i> James P. Denier
FM7_L2 <i>Convective phenomena</i> Chairperson: Keke Zhang (UK) Room 315	FM7L_12173 <i>Visualization of the flow structure and temperature field in the region of mixed convection</i> Elzbieta Fornalik	FM7L_12220 <i>Large eddy simulation of rayleigh - benard convection in an infinite fluid layer</i> Anne Sergent	FM7L_12344 <i>Thermal buoyancy convection in systems with deformable interfaces</i> Dmitriy V. Lyubimov
FM22_L2 <i>Stirring and mixing</i> Chairperson: Marek Jaszczur (Poland) Room 327	FM22L_12326 <i>Mixing is an aggregation process</i> E. Villermaux	FM22L_12048 <i>Intermittent distribution of heavy inertial particles in turbulent flows</i> Alain Pumir	FM22L_11190 <i>Front propagation in laminar cellular flows : an experimental study</i> Alain Pocheau

10:30 – 11:00 Break

11:00 – 13:00 Lecture Sessions

	11:00	11:20	11:40	12:00	12:20	12:40
FSM7_L1 <i>Education in mechanics</i> Chairperson: Bhushan L. Karihaloo (UK) Room 123	FSM7L_10003 <i>Toys and games in mechanics education</i> Hassan Aref	FSM7L_10016 <i>African institute for mathematical sciences: a capacity building initiative in which iutam has an active involvement</i> H. K. Moffatt	FSM7L_10226 <i>On mechanics/engineering science education</i> Carl T. Herakovich	FSM7L_12467 <i>Multiimedia fluid mechanics: a flexible educational tool for teaching and learning fluid mechanics</i> G. M. Homsy	FSM7L_12642 <i>Rigid body dynamics: student misconceptions and their diagnosis</i> D. L. Evans	FSM7L_12752 <i>Web-based instructional units for teaching mechanics</i> Kamal B. Rojiani
FSM4_L2 <i>Fluid-structure interaction</i> Chairperson: Michael P. Paidoussis (Canada) Room 124	FSM4L_11758 <i>Water - surface dynamics among a periodic array of floating bodies subject to regular incident waves</i> Hiroshi Kagemoto	FSM4L_12175 <i>Fast multipole algorithm for wave response analysis of floating structures</i> Eiichi Watanabe	FSM4L_11319 <i>A new model for the study of rain - wind induced vibration</i> A. K. Abramyan	FSM4L_12557 <i>Disturbed-laminar flow over an oscillating cylinder</i> John R. Chaplin	FSM4L_11801 <i>The mixing layer instability of wind over a flexible crop canopy</i> Charlotte Py	FSM4L_12956 <i>Piv experiments on vortex induced vibrating cylinders at high reynolds numbers</i> John Grue

	11:00	11:20	11:40	12:00	12:20	12:40
SM1_L4 <i>Computational solid mechanics</i> Chairperson: Alexandre Vasilevich Vakhrouchev (Russia) Room 134	SM1L_12237 <i>Modified error in constitutive relation and its application to dynamic tests with corrupted boundary conditions</i> Pierre Feissel	SM1L_12310 <i>Geometry based rational enrichment functions for triangular plane elasticity element</i> Juha Makipelto	SM1L_12441 <i>Adaptive discontinuous galerkin method for elastodynamics on unstructured spacetime grids</i> Robert B. Haber	SM1L_12455 <i>Continuum mechanics and carbon nanotubes</i> Marino Arroyo	SM1L_12458 <i>Toward convergence in initially rigid cohesive fracture models</i> Katerina Papoulia	SM1L_12534 <i>Computational homogenisation of microheterogeneous materials including decohesion at finite strains</i> Stefan Loehnert
SM24_L3 <i>Structural optimization</i> Chairperson: George I. N. Rozvany (Hungary) Room 144	SM24L_12222 <i>Optimal design of lossy bandgap structures</i> Jakob S. Jensen	SM24L_12302 <i>Design of articulated mechanisms with a degree of freedom constraint using global optimization</i> Atsushi Kawamoto	SM24L_12789 <i>Optimization of functionally graded materials with temperature dependent properties. a meshfree solution</i> Florin Bobaru	SM24L_12870 <i>Optimum blank design for deep drawing using interaction of high and low fidelity simulation</i> Vassili Toropov	SM24L_13013 <i>The concurrent design of materials and structures for cellular materials on efficiency of heat dissipation</i> Gengdong D. Cheng	SM24L_10594 <i>A technique for nonsmooth optimization based on the interior point feasible directions algorithm</i> Jose Herskovits
SM20_L1 <i>Rock mechanics and geomechanics</i> Chairperson: Zenon Mroz (Poland) Room 206	SM20L_10231 <i>The material point method in soil mechanics problems</i> Zdzislaw Wieckowski	SM20L_10702 <i>Modeling of coupling between induced anisotropic damage and permeability in rocks</i> J.F. Shao	SM20L_10866 <i>Micromechanical study of macroscopic friction and dissipation in idealised granular materials: the effect of interparticle friction</i> N.P. Krut	SM20L_11584 <i>Influence of contact phenomena on structure - subsoil interaction: finite elements method analysis</i> Marcin Mazdziarz	SM20L_11667 <i>Modeling of static liquefaction and evolving failure modes</i> Nathalie Boukpeti	SM20L_11845 <i>Development of shear banding in sandstone</i> Joseph F. Labuz
SM15_L1 <i>Mechanics of porous materials</i> Chairperson: Alan C.F. Cocks (UK) Room 208	SM15L_10198 <i>Biodegradation in porous landfill bodies</i> Tim Ricken	SM15L_10792 <i>Localization and stability of unsaturated soil</i> Wolfgang Ehlers	SM15L_11119 <i>Convolution quadrature based boundary element method for quasi - static poroelasticity</i> Martin Schanz	SM15L_11194 <i>Theory and numerics of multicomponent mixture models for soft biological tissues</i> Bernd Markert	SM15L_12114 <i>Thermo - hydro - chemical - mechanical analysis of concrete at high temperatures</i> Stefano Dal Pont	SM15L_12577 <i>Mechanics of saturated high porosity / soft materials</i> Jozef Kubik
FM1_L1 <i>Biological fluid dynamics</i> Chairperson: Mory Gharib (USA) Room 213	FM1L_10132 <i>Mechanics of the bounding flight revisited</i> Takeshi Sugimoto	FM1L_11013 <i>How to breathe in a liquid-filled lung: symmetry of airway reopening</i> Charles N. Baroud	FM1L_11441 <i>Bacterium swimming motion close to a wall</i> Tomonobu Goto	FM1L_11900 <i>In vivo piv measurement in the embryonic chicken heart</i> Peter Vennemann	FM1L_12063 <i>Bioirrigation in marine sediments: ecological conclusions from numerical modelling</i> Oleksiy S. Galaktionov	FM1L_12295 <i>Three - dimensional airway reopening - finite - reynolds - number effects</i> Andrew L. Hazel

	11:00	11:20	11:40	12:00	12:20	12:40
SM2_L3 <i>Contact and friction mechanics</i> Chairperson: Stanislaw Stupkiewicz (Poland) Room 219	SM2L_12246 <i>Chaotic response of non-reversible dry friction oscillator</i> Andrzej Stefanski	SM2L_12563 <i>Frictional sliding of a multislip system</i> Thibaut Putelat	SM2L_11987 <i>Crack-like and pulse-like modes of frictional sliding along an interface under dynamic shear loading</i> Demirkan Coker	SM2L_12382 <i>A dynamic unilateral contact problem for a cracked body</i> Marius Cocou	SM2L_10415 <i>Electric - Mechanical Beam - To-Beam Contact</i> Przemyslaw Litewka	SM2L_12227 <i>Thermomechanics modeling of two solids in contact: application to total hip arthroplasty</i> Nirina A. Ramaniraka
SM25_L3 <i>Structural vibrations</i> Chairperson: Iliya I. Blekhman (Russia) Room 226	SM25L_12694 <i>Discontinuous transformations and averaging for vibro-impact analysis</i> Jon Juel Thomsen	SM25L_12785 <i>Mode switching of rain-wind induced vibrations</i> Christian Seidel	SM25L_12770 <i>Optimum selection of design features of electromechanical drive systems incorporating a control unit</i> Arkadiusz Mezyk	SM25L_10166 <i>Extreme value distribution and dynamic reliability of stochastic structures</i> Jianbing Chen	SM25L_12404 <i>Thermoelastic relaxation in thin plates with applications to mems and nems oscillators</i> Andrew N. Norris	SM25L_12759 <i>Experimental analysis of modal interactions in the non-linear vibrations of a plate</i> Pedro Ribeiro
SM17_L1 <i>Multibody dynamics</i> Chairperson: Friedrich G. Pfeiffer (Germany) Room 231	SM17L_12133 <i>Simulation of contacting spatial polyhedral particles</i> Beate Muth	SM17L_12569 <i>Contact problems in roller chain drive systems.</i> Sine Leergaard Pedersen	SM17L_11020 <i>Analysis of grazing bifurcations in impact microactuators</i> Harry Dankowicz	SM17L_12134 <i>Plastic deformation by impacts in multibody systems</i> Robert Seifried	SM17L_11361 <i>Modeling ballast behavior using a three-dimensional polyhedral discrete element method</i> Gilles Saussine	SM17L_11375 <i>Efficient generalized speeds in a recursive formulation of flexible multibody dynamics</i> Arun Banerjee
FM19_L2 <i>Magnetohydrodynamics</i> Chairperson: Peter A. Davidson (UK) Room 306	FM19L_11458 <i>Magnetohydrodynamic motion of toroidal magnetic eddies</i> Y. Hattori	FM19L_11637 <i>Large eddy simulation of magnetic damping of jet</i> Jungwoo Kim	FM19L_11681 <i>Observations of the magnetorotational instability in spherical couette flow</i> Daniel P. Lathrop	FM19L_12090 <i>A model for liquid metal current limiters</i> Andre Thess	FM19L_12107 <i>The magnetohydrodynamic couette flow in a plane and spherical geometries with singular hartmann boundary layers</i> Krzysztof A. Mizerski	FM19L_12125 <i>Numerical simulations of dynamo experiments</i> Andreas Tilgner
FM25_L1 <i>Vortex dynamics</i> Chairperson: Denis Blackmore (USA) Room 309	FM25L_12161 <i>On local vortex identification</i> S. Balachandar	FM25L_10683 <i>New means of vortex breakdown control</i> Miguel A. Herrada	FM25L_11391 <i>Instabilities of a vortex pair in a stratified and rotating fluid</i> Paul Billant	FM25L_11467 <i>Stability of oceanic vortices: a solution to the problem</i> Eugene Benilov	FM25L_12196 <i>The modelling of the dynamics of hairpin vortex packets in wall turbulence</i> Vyacheslav V. Meleshko	FM25L_11741 <i>Strong cyclonic vortices over topography on a beta-plane</i> Hung - Cheng Chen

	11:00	11:20	11:40	12:00	12:20	12:40
FM13_L3 <i>Flow instability and transition</i> Chairperson: Peter Monkewitz (Switzerland) Room 315	FM13L_12372 <i>On instability mechanisms in a separating boundary-layer flow</i> Uwe Ehrenstein	FM13L_12425 <i>Spiral vortex breakdown as a global mode</i> Francois Gallaire	FM13L_12431 <i>Computational study of turbulent - laminar bands in couette flow</i> Dwight Barkley	FM13L_12483 <i>A generic mechanism for by - pass transition in vortices</i> Arnaud Antkowiak	FM13L_12509 <i>Acoustic field generated by instability waves in the transonic regime</i> Christophe Millet	FM13L_12542 <i>Nonlinear transition of a flow driven by a rotating magnetic field</i> Ilmars Grants
FM8_L1 <i>Drops and bubbles</i> Chairperson: Jens G. Eggers (UK) Room 327	FM8L_11289 <i>Theoretical studies of flow - induced coalescence</i> L. Gary Leal	FM8L_11317 <i>Atomization of an undulating liquid sheet</i> N. Bremond	FM8L_11330 <i>Evaporation - driven assembly of colloidal particles</i> Eric Lauga	FM8L_11462 <i>Molecule configurations in a droplet detachment process of a semidilute xanthan solutions</i> Christian Wagner	FM8L_11723 <i>Numerical simulation of liquid - gas interfaces with applications to atomization</i> Stephane Zaleski	FM8L_11911 <i>Evolution of a pair of spherical bubbles rising side by side at moderate reynolds number</i> Jacques Magnaudet

13:00 – 14:30 Lunch

14:30 – 16:30 Seminar Presentation Sessions

	FSM1_S2 <i>Acoustics</i> Chairperson: Jeremy Astley (UK) Room 000A	FSM4_S1 <i>Fluid-structure interaction</i> Chairperson: John Grue (Norway) Room 000B	FSM6_S1 <i>Multiscale phenomena in mechanics</i> Chairperson: Pilar Ariza (Spain) Room 000C	FSM7_S1 <i>Education in mechanics</i> Chairperson: Renata S. Engel (USA) Room 000D
14:30	FSM1S_12691 <i>Distributed Parameter Control of a 2D Acoustic Helmholtz Problem on a Halfspace</i> George Biros	FSM4S_10215 <i>On a fluid-elastic isotropic cusped plate interaction problem</i> Natalia B. Chinchaladze	FSM6S_10399 <i>Simulations of micro - and nano - channel flows by a dissipative particle dynamics method</i> Justyna Czerwinska	FSM7S_11724 <i>Mechanics - a new internet tutor</i> Aleksandr Kositsyn
14:35	FSM1S_12527 <i>The effect of viscosity on the propagation of acoustic waves through fine cylindrical meshes</i> Iain D. J. Dupere	FSM4S_10379 <i>Influence of the circular cylinder cross-section variation on the near wake behaviour</i> Oualli Hamid	FSM6S_11237 <i>Grad - type expansion about nonequilibrium states for the relaxation - time approximation of the boltzmann - peierls equation</i> Wieslaw Larecki	FSM7S_11765 <i>Teaching mechanics as an engineering science in china</i> Yilong Bai

14:40	FSM1S_12533 <i>Modelling of hydrophone based on a DFB fiber laser</i> Lars V. Hansen	FSM4S_10520 <i>Coupled frequencies of a fluid-structure interaction cylindrical system</i> Elena Gavrilova	FSM6S_11340 <i>Two - scale simulations of epitaxial surfaces</i> Heike Emmerich	FSM7S_11869 <i>Education and tutorial on fluid mechanics on the basis of computer laboratory</i> Vasily P. Yaremchuk
14:45	FSM1S_12717 <i>Frequency- and directionality- continuation schemes for scatterer shape detection in acoustics</i> Loukas F. Kallivokas	FSM4S_10826 <i>Fluid structure interaction in multiphase mixing vessel</i> Matej Vesenjak	FSM6S_12040 <i>Characteristics of orientation and grain - size distributions</i> Luca Placidi	FSM7S_12259 <i>Education in mechanics in latvia higher schools</i> Vitauts Tamuzs
14:50	FSM1S_12586 <i>Measurements and calculations related to curve squealing in the railway system</i> Rossano Stefanelli	FSM4S_10911 <i>Piston impact onto the boundary of two - layer fluid</i> Tatiana I. Khabakhpasheva	FSM6S_12078 <i>Numerical homogenization of a locally hyperelastic constitutive law</i> Antoine Gloria	FSM7S_12488 <i>Simulator, nohguchi bottle, of soil liquifaction for education</i> Yasuaki Nohguchi
14:55	FSM1S_12643 <i>Acoustic wave propagation through a random array of dislocations</i> Fernando Lund	FSM4S_11263 <i>The cross-flow over a pair of staggered cylinders</i> Stuart Price	FSM6S_12118 <i>Non - convex homogenization of inelastic composites with interaction of material and structural instabilities on different scales</i> Martin Becker	FSM7S_12603 <i>Mechanics education in sweden</i> Anders Bostrom
15:00	SM7_S1 <i>Experimental methods in solid mechanics</i> Chairperson: Masashi Sato (Japan) Room 000A	FSM4S_11668 <i>Interaction of oscillating flow with a pair of side - by - side square cylinders</i> Ming-Jyh Chern	FSM6S_12336 <i>Analysis of a variational method coupling discrete and continuum mechanics</i> Frederic Legoll	FM1_S1 <i>Biological fluid dynamics</i> Chairperson: Cyrus K. Aidun (USA) Room 00D
	SM7S_12666 <i>In-situ observation of fatigue crack growth in carbon steel</i> Michal A. Miskiewicz			FM1S_10741 <i>Deformation of vesicles flowing through a capillary</i> Thomas Podgorski
15:05	SM7S_12799 <i>New solutions in experimental modal analysis of mechanical structures</i> Tadeusz Uhl	FSM4S_11833 <i>An updated arbitrary - lagrangian - eulerian description in continuum mechanics and its application to nonlinear fluid-structure interaction dynamics</i> Jing Tang Xing	FM17_S1 <i>Granular flows</i> Chairperson: Detlef Lohse (Netherlands) Room 000C	FM1S_11188 <i>Computational exploration of liver acinus microstructure</i> H. P. Rani
			FM17S_11169 <i>Particle image velocimetry analysis of granular material flows</i> Irena Sielamowicz	

15:10	SM7S_11556 <i>The whole field non - destructive optical slicing method in three - dimensional photoelasticity</i> Michael N. Osipov	FSM4S_11912 <i>Slender body theory approach to nonlinear ship motions</i> Wolfgang M. Sichermann	FM17S_12073 <i>Species segregation driven by a granular temperature gradient</i> Christine M. Hrenya	FM1S_12655 <i>In vivo visualization of the water refilling process in xylem vessels using synchrotron X - ray micro - imaging</i> Sang - Joon Lee
15:15	SM7S_11617 <i>Porous ceramics - experimental research and modelling</i> Sylwester Samborski	FSM4S_11986 <i>Inverse magnus force in free molecular flow</i> Andrzej Herczynski	FM17S_12790 <i>Arching in granular media</i> Radoslaw L. Michalowski	FM1S_11908 <i>A model of plankton dynamics coupled with a les of the surface mixed layer</i> David M. Lewis
15:20	SM7S_11764 <i>Critical sensitivity in rock experiments</i> Yilong Bai	FSM4S_12521 <i>Effect of an oscillating cylinder on a neighbouring cylinder wake</i> Y. Zhou	FM17S_12338 <i>Morphology and scaling of impact craters in granular media</i> John R. de Bruyn	FM1S_11943 <i>Self - propulsion of an oscillatory wing</i> Adrian S. Carabineanu
15:25	SM7S_12287 <i>Non - gap design method and test for post - tensioned prestressed R.C. structure</i> Li Lijuan		FM17S_10371 <i>Maximum - entropy estimates and virtual thermomechanics for granular assemblies</i> J. D. Goddard	FM1S_12479 <i>Transverse flows in rapidly oscillating cylindrical tubes</i> Matthias Heil
15:30			FM17S_10969 <i>Flow Dynamics of Dense Granular Materials Subjected to Vertical Vibration</i> Vesa Tanskanen	FM1S_12409 <i>Computational model of selected transport processes in an infant incubator</i> Maciej K. Ginalski
15:35			FM17S_12817 <i>The role of multiple shear bands in deformation of granular materials</i> Danuta Lesniewska	

	SM24_S2 <i>Structural optimization</i> Chairperson: Pauli Pedersen (Denmark) Room 123	SM12_S1 <i>Material instabilities</i> Chairperson: Yoshihiro Tomita (Japan) Room 124	SM15_S1 <i>Mechanics of porous materials</i> Chairperson: Jozef Kubik (Poland) Room 134A	SM17_S2 <i>Multibody dynamics</i> Chairperson: Wojciech Blajer (Poland) Room 134
14:30	SM24S_12075 <i>New results of structural optimization for post - buckling behaviour</i> Michal Zyczkowski	SM12S_10314 <i>Dynamical systems theory in material instabilities</i> Peter B. Beda	SM15S_10790 <i>Mandel and cryer problems for fluid - saturated foams with negative poisson's ratio</i> Michio Kurashige	SM17S_12537 <i>Dynamic analysis and vibration control of the planar beams moving along the axial direction</i> Naoki Sugano

14:35	SM24S_10507 <i>Application of metropolis genetic algorithm for the structural design optimization</i> Yeon - Sun Ryu	SM12S_10867 <i>An idea and theory of hypothetical device for investigating the localization phenomena</i> Eugene I. Ryzhak	SM15S_11150 <i>Experimental investigation of dense free surface granular flow</i> Fidelis Tibi Sabum	SM17S_12208 <i>A systematic model reduction method for the control of flexible multibody systems</i> Olivier Bruls
14:40	SM24S_12170 <i>Transition waves in controllable cellular structures with high structural resistance</i> Andrej Cherkhev	SM12S_12223 <i>Stability of ideal infinite crystal under finite uniform deformation</i> Pavel V. Tkachev	SM15S_11848 <i>A fluid inclusion in a poroelastic solid susceptible to void compaction</i> Patrick A. S. Selvadurai	SM17S_11789 <i>A Study on the Brush Noise Reduction of a DC Motor Using Multi - Body Dynamics</i> Tae - Won Park
14:45	SM24S_12185 <i>Why parameterizing element connectivity for topology optimization?</i> Yoon Gil Ho	SM12S_12419 <i>Explosive instabilities in a class of hyperelastic materials with higher - order gradients</i> Igor Dobovsek	SM15S_12358 <i>Fe - investigations on shear localizations in granular bodies within hypoplasticity</i> Tejchman Jacek	SM17S_11688 <i>Simulation of track ballast</i> Dmitry Agapov
14:50	SM24S_12200 <i>Topology optimization of the geometrically nonlinear structures made of rubber - like material</i> Sami Holopainen		SM15S_12518 <i>Modelling of composites processing using a two - phase porous media theory</i> Ragnar Larsson	SM17S_10647 <i>Design of the rear carriage stabilizer of a low - floor articulated trolleybus</i> Pavel Polach
14:55	SM24S_12413 <i>Simulation of trabecular bone adaptation - creating the optimal structure</i> Michal Nowak	SM16_S1 <i>Mechatronics</i> Chairperson: Masayoshi Tomizuka (USA) Room 124 SM16S_10510 <i>Stability Analyses of Electrostatic Torsional RF MEMS Switch</i> Ya - Pu Zhao	SM15S_12566 <i>Wave propagation in high porosity bones: a cellular model</i> Pakula Michal	SM17S_12071 <i>Stability analysis of a tethered system</i> J. Valverde
15:00	SM24S_12573 <i>Optimal design of elasto-plastic structures subjected to normal loads and earthquake</i> Sandor Kaliszky	SM16S_12546 <i>Development of positioning of mechanisms with piezoelectric engines</i> Alfredas Busilas	SM15S_12567 <i>Soft porous media model of magnetic fluid</i> Mariusz Kaczmarek	SM8_S1 <i>Fatigue</i> Chairperson: Yi Sun (China) Room 134 SM8S_12914 <i>Modelling of Short Fatigue Crack Growth in a Metal in HCF Range</i> D. Kocanda

15:05	SM24S_12628 <i>Optimal force action and reaction in structural design and identification</i> Andrzej Garstecki	SM16S_12712 <i>Hierarchical tracking control of wheeled mobile robot</i> Li – Sheng Wang	SM15S_12614 <i>A three layer porous media model of cutaneous circulation with application to mechanical skin irritation</i> Daniela Bauer	SM8S_11371 <i>Fatigue investigations into a composite glider structure</i> Mirosław Rodzewicz
15:10	SM24S_12645 <i>Sensitivity analysis and optimal design of geometrically nonlinear 3D frames with account for stable postbuckling behaviour</i> Oleg Sergeyev	SM16S_12929 <i>Development of high - performance motion simulator for virtual reality systems</i> Alena V. Neviarouskaya	SM15S_12713 <i>Identification of some chemoporoelastic parameters of a reactive shale from experimental data</i> J. Sarout	SM8S_11737 <i>Fatigue life prediction considering residual stress relaxation</i> Byeongchoon Goo
15:15	SM24S_12679 <i>DSA for elastic - plastic finite rotation shells under dynamic loads</i> Piotr Kowalczyk			SM8S_11920 <i>Effects of Frequency Temperature and Loading Waveform on Fatigue Crack Growth Rate in Steel 15Kh13MF</i> P. O. Maruschak
15:20	SM24S_12916 <i>Computational tricks for efficient design sensitivity analysis</i> Henrik T. Moller			SM8S_12001 <i>A study on the effect of residual stress on a fatigue behavior</i> Seung - Yong Yang
15:25				SM8S_12034 <i>Probabilistic analysis of fatigue crack growth using moment method</i> Ki-Seok Kim
15:30				SM8S_12228 <i>Modelling fatigue crack growth with time - derivative equations</i> Marion Risbet

	FM5_S1 <i>Compressible flow</i> Chairperson: Piotr P. Doerffer (Poland) Room 134B	SM1_S2 <i>Computational solid mechanics</i> Chairperson: Julia Mergheim (Germany) Room 144	SM18_S2 <i>Plasticity and viscoplasticity</i> Chairperson: Dieter Weichert (Germany) Room 160	SM2_S2 <i>Contact and friction mechanics</i> Chairperson: Jan Awrejcewicz (Poland) Room 206
14:30	FM5S_10453 <i>Pulsations of pressure at a cylinder in a subsonic stream of gas.</i> Alexander Shvets	SM1S_12905 <i>New family of finite element models for composite and non - uniform polarization piezoelectric structures</i> Andrew V. Nasedkin	SM18S_13002 <i>Modelling of molecular processes in creep of an oriented linear crystalline polymer</i> Ulmas Gafurov	SM2S_11613 <i>Evolutions of friction anisotropy and heterogeneity</i> Alfred Zmitrowicz

14:35	FM5S_10945 <i>Analytical models for shocks in compressible flow</i> Helmut Sobieczky	SM1S_12340 <i>Solving of indirect problems using trefftz method</i> Marek S. Karas	SM18S_11930 <i>Steady - flow of a non - homogeneous bingham material over a wedge</i> N. D. Cristescu	SM2S_11697 <i>Inverse problems of thermoelasticity for frictionally interacting layers</i> Victor Shevchuk
14:40	FM5S_10984 <i>LDA investigation of a transonic bump flow</i> Holger Babinsky	SM1S_12351 <i>Tensor invariants and mechanisms of transition to chaos in nonholonomic dynamical systems</i> Alexey V. Borisov	SM18S_11945 <i>Parameters identification of viscoplastic models using evolutionary algorithms</i> Mariusz Pyrz	SM2S_11778 <i>Multidimensional model of combined dry friction</i> Alexey A. Kireenkov
14:45	FM5S_11229 <i>Turbulent effects in type4 shock interactions</i> Josef Ballmann	SM1S_12359 <i>Analysis of a structural detail using a two - scale approach</i> M. Cloirec	SM18S_11953 <i>Modelling of elastic - plastic or viscoplastic materials sensitive to the type of processes - different approaches</i> Angel I. Baltov	SM2S_12082 <i>Experimental and numerical study of the brick-mortar interface</i> Leila Abdou
14:50	FM5S_11560 <i>Numerical optimization of 2D scramjet inlets</i> Susumu Hasegawa	SM1S_12505 <i>Residual stresses in nonlinear strain hardening annular disks of variable thickness subject to external pressure</i> Ahmet N. Eraslan	SM18S_11975 <i>Metal forming and texture development modelling</i> Wiktor L. Gambin	SM2S_12097 <i>Penalty approximation of impact with coulomb friction</i> Michelle Schatzman
14:55	FM5S_11864 <i>Effect of surface roughness on mach reflection</i> Susumu Kobayashi	SM1S_12579 <i>Shakedown safety criterion in reliability analysis</i> Andrzej Siemaszko	SM18S_12549 <i>Modeling the crystallographic texture evolution based on the maximum entropy method</i> T. Boehlke	SM2S_12412 <i>A simple model to account for the locking effect between two rough surfaces under cyclic loading</i> Larissa Gorbatikh
15:00	FM5S_12066 <i>On the theory for subsonic, transonic and supersonic flows in water with supercavitation</i> Guenter H. Schnerr	SM1S_12584 <i>A new finite element formulation based on the theory of a cosserat point</i> E. F. I. Boerner	SM18S_12634 <i>An elastoplastic model for prediction of permanent deformations of unbound granular pavement layers</i> Absamad El Abd	SM2S_12678 <i>On optimal control of a quasivariational inequality arising from a viscoelastic contact problem</i> O. P. Layeni
15:05	FM5S_12144 <i>Mathematical modeling of turbulent supersonic flows in inlets with rotating cowl</i> Igor A. Bedarev	SM1S_12607 <i>Arc - length method for explicit dynamic relaxation</i> Ilson P. Pasqualino	SM18S_12697 <i>Intragranular kinematic hardening modelling and validation</i> Maxime Sauzay	SM2S_12773 <i>A novel contact model based on volumetric information</i> Yves Gonthier
15:10	FM5S_13016 <i>Correlation of nearfield pressure with mixing layer velocity in a supersonic jet</i> Joel Delville	SM1S_12727 <i>The numerical homogenization of the concrete behavior</i> Frederic Grondin		

15:15	FM5S_12219 <i>Interaction of supersonic flows in an ejector</i> Vaclav Dvorak	SM1S_12844 <i>Deformation analysis of inflated cylindrical membrane of composite material with rubber matrix reinforced by cords</i> Tran Huu Nam		
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	SM4_S1 <i>Damage mechanics</i> Chairperson: Chi L. Chow (USA) Room 208	SM13_S2 <i>Mechanics of composites</i> Chairperson: Ryszard Pyrz (Denmark) Room 213	SM6_S2 <i>Elasticity</i> Chairperson: Reuven Segev (Israel) Room 215	SM25_S2 <i>Structural vibrations</i> Chairperson: Zbigniew L. Kowalewski (Poland) Room 219
14:30	SM4S_10216 <i>Time - frequency characterization of a cracked rotor by wigner - ville distribution and wavelet transform</i> Alfayo A. Alugongo	SM13S_12448 <i>Bounds for expansion coefficients of composites</i> Vladimir Vinogradov	SM6S_12039 <i>Nonlinear radial oscillations of anisotropic thin-walled cylindrical tubes</i> G. H-S. Maluleke	SM25S_11759 <i>Nonlinear vibrations of gear drives</i> Vladimir Zeman
14:35	SM4S_10011 <i>Stability and creep damage of quasi - brittle materials</i> Noel Challamel	SM13S_12478 <i>Long - term stress - strain relations of the cement - matrix composite</i> Huang - Hsing Pan	SM6S_12324 <i>New analytical approach for investigation of non - stationary dynamics of media with moving inhomogeneities</i> Serge N. Gavrilov	SM25S_11834 <i>A power flow mode theory based on inherent characteristics of damping distributions in systems and its applications</i> Ye Ping Xiong
14:40	SM4S_12335 <i>Low cycle fatigue based on unilateral damage evolution</i> Artur Ganczarski	SM13S_12489 <i>Inclusion dispersion: effects on stress and effective properties</i> Jan Schjoedt - Thomsen	SM6S_12354 <i>Agmon's condition for incompressible elasticity: a variational formulation</i> Gearoid Mac Sithigh	SM25S_11867 <i>Stability of a spinning disk under a stationary oscillating unit</i> T. H. Young
14:45	SM4S_11118 <i>Discrete probabilistic modelling of damage and adhesion</i> Jean Francois Ganghoffer	SM13S_12531 <i>Thermo-mechanical stability and vibration analysis of composite shells</i> Lingadahally S. Ramachandra	SM6S_12575 <i>Truncated Elastic Wedge under Torsional Load</i> Vyacheslav V. Lyakh	SM25S_11904 <i>High revolving speed spindles definition due to transient vibration conditions</i> Seyed S. H. Yazdi
14:50	SM4S_12277 <i>Computational micro - meso modeling for laminates under thermomechanical fatigue and an oxidizing atmosphere</i> Lubineau Gilles	SM13S_12560 <i>New trends in optimal design of composite materials</i> Aleksander Muc	SM14_S1 <i>Mechanics of phase transformations (jointly with IACM)</i> Chairperson: Tatsuo Inoue (Japan) Room 215	SM25S_12026 <i>Suppressing self - excited vibrations in a coupled pendulum system</i> Fadi Dohnal

			SM14S_12881 <i>Nucleation and motion of phase boundary in shape memory alloy microtubes</i> Qingping Sun	
14:55	SM4S_12298 <i>A non-associative anisotropic damage model for brittle materials</i> Ilaria Monetto	SM13S_12588 <i>Asymptotic study of imperfect interfacial bonding in periodic composite materials</i> Vladyslav V. Danishevs'kyy	SM14S_12121 <i>Simulation of discontinuity movement by boundary elements</i> Claus Oberste - Brandenburg	SM25S_12977 <i>Characteristics of vibroacoustic signals in diagnosing early stages of defects</i> Stanislaw Radkowski
15:00	SM4S_11234 <i>Modeling of thermo - damage coupling in anisotropically damaged materials</i> Sumio Murakami	SM13S_12612 <i>Analytical models for stress and failure analysis of notched hybrid composites</i> Pawel Kostka	SM14S_11837 <i>Equilibrium and stability of two - phase deformations within the framework of phase transition zones</i> Alexander Freidin	SM25S_12498 <i>Estimation of the vibration energy characteristics for joints of constructional elements</i> Jacek Cieslik
15:05	SM4S_10960 <i>Material models for hookean materials with voids or cracks</i> Kari Santaoja	SM13S_12667 <i>T-inclusion regions for the effective transport coefficients of two--phase media</i> Antoni Galka	SM14S_11521 <i>New Model of the Phase Transition Kinetics in Solids</i> Vladimir I. Kondaurov	SM25S_12511 <i>Sound radiation by the white noise excited viscoelastic shallow shells</i> Marek S. Kozien
15:10	SM4S_11779 <i>An asymptotic analysis of mode I crack in creepnig damaged solids</i> Larisa V. Stepanova	SM13S_12684 Thermoelastoplastic behavior of discontinuously-reinforced composites considering reinforcement damage Yasser M. Shabana	SM23_S1 <i>Stochastic micromechanics</i> Chairperson: Pierre J. Ladeveze (France) Room 215 SM23S_12571 <i>Collective prismatic dislocation loops mechanism</i> Yoji Shibutani	SM25S_12632 <i>Application of extended phase trajectories to investigation of forced biharmonic oscillations</i> Viktorija E. Volkova
15:15	SM4S_12333 <i>Robust identification of an augmented gurson model for elasto-plastic porous media</i> Andrzej Stachurski	SM13S_12732 <i>Macroscopic relations for nonlinear thermodiffusion in heterogeneous elastic medium</i> Ryszard Wojnar	SM23S_12380 <i>Homogenization of plain weave composites with imperfect microstructure</i> Jan Zeman	SM25S_12659 <i>Non - linear modelling of earthquake induced pounding of buildings</i> Robert Jankowski
15:20		SM13S_12970 <i>Incremental effective constitutive law for composite material in the form of artificial neural network</i> Marek Lefik	SM23S_12262 <i>Modeling of deformation and fracture of non woven felts</i> Carlos Gonzalez	SM25S_12984 <i>Entering the excitation into a mechanical system with dynamic eliminators of vibration</i> Tadeusz Majewski

15:25			SM23S_10242 <i>Creep rupture and fiber breaks accumulation in unidirectional composite</i> Andrejs Krasnikovs	SM25S_12814 <i>Regenerative tool chatter near a codimension - 2 hopf point</i> Pankaj Wahi
15:30				SM25S_12842 <i>Axial decay of time harmonic end perturbation in prestretched hyperelastic plates</i> David Durban
15:35				SM25S_12861 <i>Drilling under percussive vibro - impact with dry friction</i> Hans I. Weber
15:40				SM25S_11402 <i>Short Wave - Length Dynamics of a String on Asymmetric Nonlinear Supports</i> Leonid I. Manevitch
15:45				SM25S_11699 <i>An Aproach to Worm - Like Motion</i> Igor Zeidis

	FM7_S1 <i>Convective phenomena</i> Chairperson: Janusz Szmyd (Poland) Room 219A	SM9_S2 <i>Fracture and crack mechanics</i> Chairperson: Jose Dominguez (Spain) Room 226	SM11_S2 <i>Impact and wave propagation</i> Chairperson: Witold Kosinski (Poland) Room 231	SM3_S1 <i>Control of structures</i> Chairperson: Felix L. Chernousko (Russia) Room 237A
14:30	FM7S_10322 <i>Bifurcation of steady thermo - capillary flows of a binary mixture</i> Vladimir A. Batischev	SM9S_11502 <i>Analysis of tensile testing of a soft ferromagnetic elastic strip containing a central crack under a magnetci field</i> Daisuke Sekiya	SM11S_11682 <i>Acceleration wavefronts in random media</i> Martin Ostoja - Starzewski	SM3S_10098 <i>Coupled optimal design of building with TMD</i> Anupam S. Ahlawat
14:35	FM7S_10438 <i>Scaling laws for thermal convections</i> Martin P. King	SM9S_11568 <i>A quasi - spherical coordinate system and its application to the determination of vertex - type singularities</i> Hai - Tao Wang	SM11S_12728 <i>Strongly coupled inversion of rayleigh dispersion and attenuation curves</i> Carlo G. Lai	SM3S_10458 <i>Time - optimal control of hydraulic manipulators</i> Pawel Holobut

14:40	FM7S_10538 <i>On features of magnetic convection in ferrofluid</i> Aleksandra A. Bozhko	SM9S_12798 <i>Numerical analysis of strain hardening and pressure sensitivity effects on j - integral</i> Abdulhamid Al - Abduljabbar	SM11S_11099 <i>A two - dimensional analysis of surface acoustic waves in finite anisotropic solids with electrodes</i> Ji Wang	SM3S_10879 <i>Surface accuracy of inflatable reflector covered with stretched cable</i> Kazuo Tanizawa
14:45	FM7S_10914 <i>Multiplicity of patterns in cylindrical convection</i> Katarzyna Boronska	SM9S_11910 <i>The influence of remote stresses on the near crack tip stress field</i> Ewa Turska	SM11S_11596 <i>Uniqueness results for the reflection - transmission problem</i> Angelo Morro	SM3S_11036 <i>H-inf control for smart multistory building structures</i> Daniela Marinova
14:50	FM7S_11160 <i>Natural convection for anomalous density variation of water - numerical benchmark</i> Tomasz Michalek	SM9S_11934 <i>The elasto-plastic thin film/substrate via buckle-driven delamination and crack growth</i> Shouwen Yu	SM11S_11812 <i>Inhomogeneous circularly polarized waves in orthorhombic crystals</i> Philippe S. Boulanger	SM3S_11219 <i>Pre - acting impact isolation systems</i> Nikolai N. Bolotnik
14:55	FM7S_11251 <i>3D flow transition behind a heated cylinder</i> Camilo C.M. Rindt	SM9S_11980 <i>On 3-D thermoelastic problems of interfacial cracks in a periodic stratified space</i> Andrzej Kaczynski	SM11S_11620 <i>Wave interaction resonances in inhomogeneous elastic materials</i> Andres Braunbrueck	SM3S_11287 <i>Suppression of train - induced vibrations of continuous truss bridge by hybrid TMDs</i> Jong - Dar Yau
15:00	FM7S_11673 <i>Penetrative convection in stratified fluids: velocity measurements by image analysis</i> Antonio Cenedese	SM9S_12174 <i>The shield effect of phase transformation stress field at crack tip</i> Ping Wang	SM11S_11401 <i>Some degenerated and extended wave models of elasto - and hydrodynamics with finite velocity disturbance propagation</i> Igor Selezov	SM3S_12622 <i>Slow snake-like motions of linkages</i> T.Yu. Figurina
15:05	FM7S_11905 <i>Experimental and numerical studies of convection flow in a cylindrical-conical fermenting tank</i> Heiko Meironke	SM9S_12249 <i>Contact zone approach to the analysis of interface cracks in thermomechanically loaded piezoelectric bimaterials</i> Volodymyr V. Loboda	SM11S_11381 <i>Application of numerical methods for analysis of propagation of vibrations generated by moving load</i> Erkan Celebi	SM3S_13004 <i>Control of a nonlinear slewing flexible beam</i> Andre Fenili
15:10	FM7S_12267 <i>The influence of translational vibration of circular polarization on fluid convection stability and flow patterns</i> Aleksander Kozlov	SM9S_12492 <i>Creep deformation in thermal barrier coatings due to the effect of thermal growth oxidation and temperature gradient</i> Y. C. Zhou	SM11S_10891 <i>Rayleigh - like surface waves on a nonlinear layered elastic half space</i> Semra Ahmetolan	

15:15	FM7S_12708 <i>Natural convection of pseudoplastic fluids</i> Strek Tomasz	SM9S_12782 <i>Phase dependent fracture and damage evolution of polytetrafluoroethylene (PTFE)</i> Eric N. Brown		
15:20	FM7S_12730 <i>Convective phenomena in rotating annuli heated on periphery</i> Alexander A. Smirnovskii			
15:25	FM7S_12850 <i>On the rayleigh - benard problem in the continuum limit</i> Avshalom Manela			
15:30	FM7S_13005 <i>The influence of vibration on the onset of marangoni convection in horizontal fluid layer</i> V. A. Novosiadliy			
15:35	FM7S_13022 <i>Air convection in a cubic enclosure with laterally shifted electric coil without a gravity field.</i> Hiroyuki Ozoe			

	FM18_S1 <i>Low-Reynolds-number flow</i> Chairperson: Maria L. Ekiel-Jezewska (Poland) Room 304	FM22_S1 <i>Stirring and mixing</i> Chairperson: Tatyana S. Krasnopolskaya (Ukraine) Room 305	FM25_S1 <i>Vortex dynamics</i> Chairperson: Vyacheslav V. Meleshko (Ukraine) Room 305A	FM19_S1 <i>Magnetohydrodynamics</i> Chairperson: Yuji Hattori (Japan) Room 306
14:30	FM18S_10297 <i>Radially symmetric polar ice sheet flow with evolving anisotropic fabric</i> Ryszard Staroszczyk	FM22S_10130 <i>Development of the fractal dimension of material elements in homogeneous isotropic turbulence using kinematic simulation</i> F. Nicolleau	FM25S_11676 <i>Numerical experiments on vortex shedding from an oscillating cylinder</i> Fernando Ponta	FM19S_10235 <i>Bifurcation of conical magnetic field</i> Vladimir Shtern

14:35	FM18S_10766 <i>Two - layer stagnation point flows</i> M. G. Blyth	FM22S_10532 <i>Enhanced mixing by vortices</i> Patrice Meunier	FM25S_11683 <i>Bifurcation of motions of three vortices and applications</i> Denis Blackmore	FM19S_11621 <i>Fluid dynamos and precession driving</i> J. Leorat
14:40	FM18S_11239 <i>Optimal lift force on vesicles near a deformable substrate</i> Julien Beaucourt	FM22S_10896 <i>Geometric features of high - schmidt number scalar mixing</i> Jörg Schumacher	FM25S_12032 <i>A model for the formation of 'optimal' vortex rings with taking into account viscosity</i> Felix B. Kaplanski	FM19S_11809 <i>Simulating the orszag-tang vortex using RSPH</i> Steinar Borge
14:45	FM18S_12859 <i>Transient squeeze flow of viscoplastic liquids</i> G. Karapetsas	FM22S_12110 <i>Chaotic stirring of passive fluid by a vortex pair in circular domain</i> Alexandre A. Gourjii	FM25S_12041 <i>Numerical simulation of vortical flows using a highly accurate finite difference scheme</i> Katsuya Ishii	FM19S_11906 <i>Homogenisation of electrically heated glass melts by lorentz forces</i> U. Krieger
14:50	FM18S_11915 <i>Flow visualization experiments of cellular stokes flows induced by rotation of a cylinder variously positioned inside channels</i> Emin F. Kent	FM22S_12209 <i>On dissipative structures of stirring - grids turbulence</i> S. S. Shy	FM25S_12080 <i>Numerical investigation of the laminar - turbulent transition of the flow in a rotor - stator cavity</i> Ewa Tuluszka - Sznitko	FM19S_12120 <i>Mean electromotive force for a ring of helical vortices</i> Raul A. Avalos-Zuniga
14:55	FM18S_11922 <i>Many - sphere hydrodynamic interactions: weak convective inertia effects</i> I. T. Pienkowska	FM22S_12415 <i>Stirring and mixing effects in agglomerative precipitation</i> Jerzy Baldyga	FM25S_12108 <i>Viscous vertical length scale selection in stratified fluids</i> Ramiro Godoy-Diana	FM19S_12363 <i>Model of gas flow inside a plasma thruster</i> S. Barral
15:00	FM18S_12981 <i>Slow rotation of a double sphere in a viscous fluid</i> D. Palaniappan	FM22S_12439 <i>Resonances and mixing in stokes flows</i> Dmitri Vainchtein	FM25S_12544 <i>Vortex dynamics in the sphere wake at moderate re</i> Paul V. Matyushin	FM19S_12379 <i>Subgrid - scale modeling of anisotropic mhd turbulence</i> Oleg Zikanov
15:05	FM18S_12164 <i>Viscous eddy structures in an oscillating cylinder with sharp corners</i> M. Branicki	FM22S_12545 <i>Eulerian measures for lagrangian stirring in a thermally driven flow</i> R. J. Keane	FM25S_12821 <i>Three dimensional velocity field of vortices impinging on a wall obtained by scanning particle tracking velocimetry</i> Klaus W. Hoyer	FM19S_12587 <i>Numerical study of the flow in a finite cylinder driven by a rotating magnetic field</i> Jorg Stiller
15:10	FM18S_11300 <i>Particles Located on a Planar Free - Surface - Hydrodynamic Interactions in Quasi - Two - Dimensional System</i> Bogdan Cichocki	FM22S_12610 <i>An analysis of mixing process in a static mixer</i> Marek Jaszczur	FM25S_12836 <i>Study of the vortex rings interaction by 3D vorticity particle - in - cell method</i> Pawel Regucki	FM19S_12605 <i>Interface reconstruction in cylindrical two - compartment - systems using magnetic field tomography</i> Hartmut Brauer

15:15		FM22S_12633 <i>Stirring by blinking rotlets in a bounded stokes flow</i> Dennis van der Woude		FM19S_12613 <i>Contactless inductive flow tomography: theory and experiment</i> Frank Stefani
15:20		FM22S_12731 <i>Weak inertia and mixing between rough surfaces</i> Alain Bergeon		

	FM6_S2 <i>Computational fluid dynamics</i> Chairperson: Erik R. Dick (Belgium) Room 307	FM20_S1 <i>Multiphase flows</i> Chairperson: Touvia Miloh I. (Israel) Room 307A	FM2_S1 <i>Boundary layers</i> Chairperson: Alfred Kluwick (Austria) Room 308	FM3_S1 <i>Combustion and flames</i> Chairperson: Piotr Wolanski (Poland) Room 308A
14:30	FM6S_12510 <i>Numerical error evaluation for tip clearance flow calculations in centrifugal compressor</i> Guillaume Dufour	FM20S_10416 <i>Large - eddy simulation of particle dispersion in the duct with fluid injection</i> Konstantin N. Volkov	FM2S_10948 <i>Extending the generalized logarithmic law to the wall</i> Matthias M. Buschmann	FM3S_10367 <i>Enhancement of the impinging diffusion flame by splash plate</i> Ay Su
14:35	FM6S_12985 <i>Numerical study of the dynamics of coalescence of two bubbles of air in a water column at rest</i> Belkacem Zeghmati	FM20S_12886 <i>Image processing method in estimation of bubble column's work</i> Daniel Zajac	FM2S_11017 <i>Sub - and supersonic shapes without separation and cavitation</i> Ihor Nesteruk	FM3S_10747 <i>Exothermic explosions in a slab: a case study of series summation technique</i> Oluwole D. Makinde
14:40	FM6S_12337 <i>CFD methods in industrial applications vehicle external aerodynamics and aerodynamic interaction of moving vehicles</i> Milan Schuster	FM20S_10690 <i>Sings of flooding instability in inclined liquid films at high pressure and mass transfer in high density gas slugs</i> Maria J. F. Ferreira	FM2S_11210 <i>Long layers exhibiting local jumps, in industrial and biomedical applications</i> Frank T. Smith	FM3S_11031 <i>Simulation of flame propagation in a tube with obstacles</i> Aidarkhan Kaltayev
14:45	FM6S_12356 <i>A Computational Model for the Si/C/N Nanopowder</i> Djamila Hourlier	FM20S_12671 <i>Simulation of planar wave instabilities in liquid - fluidized beds</i> Sankaran Sundaresan	FM2S_11339 <i>Secondary instability of stationary vortex packets in a swept wing boundary layer</i> Victor V. Kozlov	FM3S_11888 <i>Large eddy simulation of piloted and bluff - body diffusion flame</i> Tim Broeckhoven
14:50	FM23_S1 <i>Topological fluid mechanics</i> Chairperson: Koji Ohkitani (Japan) Room 307	FM20S_11189 <i>Separation and sorting of heavy particles suspended in a fluid by settling in a periodic vorticity field</i>	FM2S_11479 <i>Boundary layer development in unsteady flows</i> Andrei Camyshev	FM3S_11914 <i>Influence of the subgrid models on combustion modelling</i> Artur Tylicszczak

	FM23S_10247 <i>Streamline topology of the nearwake of a circular cylinder at low reynolds numbers</i> Morten Brons	Urbano Sanchez		
14:55	FM23S_11166 <i>Gauge principle for ideal fluids and variational principle</i> Tsutomu Kambe	FM20S_11655 <i>Gas - liquid interfractal distribution in inclined downward pipe flow</i> Elena Trostinetsky	FM2S_11780 <i>New numerical method for complex interacting flows</i> Vladimir B. Zametaev	FM3S_12199 <i>Chemical aspects of the flameless oxidation applied for gasturbine combustor</i> Yeshayahou Levy
15:00	FM23S_12868 <i>Topological aspects of the tornado problem</i> Dmytro I. Cherniy	FM20S_11745 <i>Videogrametry in fluidized bed reactors</i> Stanislaw Anweiler	FM2S_11874 <i>Statistical features and levels of natural disturbances at transition in supersonic boundary layer</i> Aleksander Kosinov	FM3S_12843 <i>Simulation of ram accelerator with petn layer</i> Arkadiusz Kobiera
15:05		FM20S_12304 <i>Dynamic blocking at the flow of invert water - oil emulsions</i> Alfir T. Akhmetov	FM2S_11984 <i>Two - fluid jets and wakes</i> Patrick Weidman	FM3S_12911 <i>Simple model of a detonating gas for use with the direct monte - carlo simulation technique</i> Zbigniew Walenta
		FM20S_12239 <i>Production of sound self - oscillations as a result of vapor condensation</i> Serguei O. Makarov	FM2S_12030 <i>The trailing edge problem for mixed convection flow past a horizontal plate</i> Herbert Steinrueck	
15:10			FM2S_12062 <i>Experimental and theoretical study of heated coanda jet</i> Tomas Vit	

	FM26_S1 <i>Waves</i> Chairperson: Paul A. Hwang (USA) Room 309	FM8_S2 <i>Drops and bubbles</i> Chairperson: Eligiusz Wajnryb (Poland) Room 315	FM9_S2 <i>Environmental fluid dynamics</i> Chairperson: John E. Holeman (USA) Room 315A	FM24_S1 <i>Turbulence</i> Chairperson: Julian Andrzej Domaradzki (USA) Room 327
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14:30	FM26S_10123 <i>Nonlinear long waves on the interface of a two - layered horizontal flow of viscous liquids</i> Georgy A. Khabakhpashev	FM8S_11979 <i>On the numerical simulation of two phase liquid - vapor phenomena</i> Patrick Le Quere	FM9S_12396 <i>Lobe and cleft formation at the head of a gravity current</i> J. N. McElwaine	FM24S_10474 <i>Stochastic model of the conditional lagrangian acceleration of a fluid particle in developed turbulence</i> A. K. Aringazin
14:35	FM26S_10746 <i>Wave breaking and equilibrium surfacewave spectra</i> Tetsu Hara	FM8S_12106 <i>Level - set simulations of shear flow with inertia pas a droplet adhering to a wall with moving contact lines</i> Peter D. M. Spelt	FM9S_10576 <i>Experiments on up - slope to down - slope transition in an inclined box filled with water</i> K. Dekajlo	FM24S_10506 <i>Experimental study of rotor-stator flows with centripetal fluxes</i> Sebastien Poncet
14:40	FM26S_11126 <i>Shallow - water theory for wave - current bottom interactions</i> Hu Huang	FM8S_12163 <i>Modelling surface tension using a ghost fluid technique within a volume of fluid formulation</i> Marianne M. Francois	FM9S_11346 <i>Dam - break flow for arbitrary slope of the bottom</i> R. Fernandez - Feria	FM24S_11116 <i>Turbulence scalings in supersonic channel flow</i> Rainer Friedrich
14:45	FM26S_11134 <i>Unsteady undular bore transition in fully nonlinear dispersive wave dynamics</i> Gennady El	FM8S_12190 <i>Dynamics of bubble supercompression in organic liquids</i> Andrei S. Topolnikov	FM9S_11537 <i>The formation of the hail and the newlycome snow</i> Slavik Avagyan	FM24S_11151 <i>On the scale similarity in large eddy simulation</i> E. Pasero
14:50	FM26S_11235 <i>Mass transport due to partially reflected waves in a two - layer viscous system</i> Chiu - On Ng	FM8S_12311 <i>Hydrodynamics of gas bubbling through organic liquids</i> Ryszard Pohorecki	FM9S_11433 <i>Extended nonlinear theory for topographic rossby waves</i> Oksana E. Poloukhina	FM24S_11161 <i>Two scale approach to anisotropic turbulence in hel II</i> Tomasz Lipniacki
14:55	FM26S_11345 <i>Nonlinear three-dimensional free surface flows in finite and infinite depth</i> Emilian Parau	FM8S_12329 <i>Surfactant effects on buoyancy - driven coalescence of spherical drops</i> Michael A. Rother	FM9S_12099 <i>Fast ferry traffic as a new forcing factor of enviromental processes in non-tidal sea areas</i> Tarmo Soomere	FM24S_11256 <i>Optimization of an implicit subgrid - scale model for LES</i> S. Hickel
15:00	FM26S_11417 <i>Dynamics of crescentwave patterns in a channel</i> D. Fructus	FM8S_12388 <i>Static shapes of levitating viscous drops</i> Laurent Duchemin	FM9S_12270 <i>Effects of curvature in avalanche deflecting dams</i> Arne Moe	FM24S_11454 <i>Empirical galerkin models for incompressible flow --- pressure-term and 'subgrid' turbulence representations</i> Bernd R. Noack

15:05	FM26S_11468 <i>Evolution of packets of surface gravity waves over smooth topography</i> Colm P. Howlin	FM8S_12547 <i>Entrainment of air bubbles during strong vorticity - free - surface interaction</i> Ulderico P. Bulgarelli	FM9S_10733 <i>Analysis of double - free surface flow through gates using element - free galerkin method</i> Mohammad.J. Kazemzadeh - Parsi	FM24S_11488 <i>Orthonormal wavelet analysis of CGT in fully developed asymmetric turbulent channel flow</i> Yu - Lu Liu
15:10	FM26S_11531 <i>Integration of the equations of long waves in the channels and jets</i> Alexander G. Petrov	FM8S_12548 <i>Spreading of charged microdroplets</i> Marco A. Fontelos		FM24S_11814 <i>Experimental observation of a two - regime spectrum in rotating turbulence</i> Frederic Moisy
15:15	FM26S_11591 <i>Sharpening and breaking of subharmonic gravity waves on deep water</i> Vasyl P. Lukomsky	FM8S_12596 <i>Multiple bubbles dynamics using level set indirect boundary element method</i> C. Wang		FM24S_12922 <i>Numerical modelling of small - scale turbulence in clouds</i> Miroslaw Andrejczuk
15:20	FM26S_11680 <i>Short wind waves and surface wind drift</i> Xin Zhang	FM8S_12806 <i>Optimal splashing</i> Edwin Poorte		FM24S_12004 <i>Three-dimensional turbulent structures of different scales</i> Akira Rinoshika
15:25	FM26S_12268 <i>Intermittent mixing by multiscale breaking of wind waves: implications for oil dispersion</i> Igor A. Brovchenko	FM8S_12873 <i>Thermodynamic parameters of vapour bubble growth by image analysis</i> A. Zachara		FM24S_12430 <i>A new mixed nonlinear LES models for boundary layers</i> R.M. Kerr
15:30	FM26S_12318 <i>Equatorial wave attractors and inertial oscillations</i> Leo R. M. Maas	FM8S_10981 <i>Spreading Behavior of Single and Multiple Drops</i> Arthur Soucemarianadin		FM24S_12652 <i>POD analysis of coherent structures in turbulent flows</i> Song Fu
15:35	FM26S_12715 <i>Steep capillary waves in electrified fluid sheets</i> Jean - Marc Vanden - Broeck			FM24S_12740 <i>Compressibility effects and sound propagation in turbulent channel flow</i> Pierre Comte
15:40	FM26S_12797 <i>Breaking internal waves in a sheared fluid with critical layers</i> Oleg G. Derzho			FM24S_12794 <i>Numerical simulations of flows in dimpled channels</i> Wang Z.

15:45	FM26S_12813 <i>Bi - directional water waves and integrable high order kdv equations</i> Georgy I. Burde			
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19:30 – 23:00 Conference Banquet

Friday, August 20

8:30 – 9:30 Sectional Lectures

	8:30
Chairperson: M. McIntyre (UK) Room 134	SL17I_10158 <i>Problems in astrophysical fluid dynamics</i> Edward Spiegel
Chairperson: W. Schiehlen (Germany) Room 208	SL1I_11040 <i>Multibody dynamics: bridging for multidisciplinary applications</i> Jorge Ambrosio
Chairperson: K. Sobczyk (Poland) Room 219	SL11I_10551 <i>Probability phenomena in perturbed dynamical systems</i> Anatoly Neishtadt
Chairperson: R. Davis (USA) Room 306	SL7I_10512 <i>Non-newtonian fluid mechanics using molecular theory</i> Roland Keunings
Chairperson: K. Moffatt (UK) Room 309	SL2I_10042 <i>Rapid formation of strong gradients and diffusion in the transport of scalar and vector fields</i> Konrad Bajer
Chairperson: R. Moser (USA) Room 315	SL10I_10731 <i>Turbulence and large-eddy simulations</i> Marcel Lesieur

9:30 – 10:30 Lecture Sessions

	9:30	9:50	10:10
FM21_L2 <i>Solidification and crystal growth</i> Chairperson: M Grae Worster (UK) Room 123	FM21L_12312 <i>A semi-sharp phase field method for quantitative phase change simulations</i> Gustav Amberg	FM21L_12543 <i>Cell shapes in directional solidification: a global study</i> Marc Georgelin	FM21L_12743 <i>Convection driven by tidal heating: numerical model and parameterized theory</i> Leszek Czechowski
FSM6_L2 <i>Multiscale phenomena in mechanics</i> Chairperson: Alberto Carpinteri (ITALY) Room 124	FSM6L_12112 <i>Multiscale analyses of granular media at finite strains based on micro - macro transitions with different boundary constraints</i> Joachim Dettmar	FSM6L_12113 <i>Exploitation of incremental energy minimization principles in computational multiscale analyses of inelastic solids</i> Christian Miehe	FSM6L_12334 <i>Physical modeling of fracture mechanics in complex materials</i> Luciano Colombo
FM3_L1 <i>Combustion and flames</i> Chairperson: Yeshayahou Levy (Israel) Room 134	FM3L_10918 <i>A nearly 1-d non - premixed flame near extinction. cell formation and the effect of the direction of bulk flow</i> David Lo Jacono	FM3L_12745 <i>Detonations of hexane vapor/droplets - air mixtures</i> Stanislaw Cudzilo	FM3L_12348 <i>Experimental and numerical investigation of a flameless oxidation combustor</i> P. J. Coelho
FSM2_L2 <i>Chaos in fluid and solid mechanics</i> Chairperson: Giuseppe Rega (Italy) Room 144	FSM2L_12927 <i>Nonlinear oscillators with time delays</i> Zbigniew Peradzynski	FSM2L_12972 <i>Non - linear oscillator under random renewal - driven trains of impulses</i> Radoslaw Iwankiewicz	FSM2L_10252 <i>Nonlinear dynamics of high - speed milling</i> Gabor Stepan
SM20_L2 <i>Rock mechanics and geomechanics</i> Chairperson: Joseph F. Labuz (USA) Room 206	SM20L_12462 <i>Incremental nonlinearity in constitutive relation for granular media</i> Yuji Kishino	SM20L_12779 <i>A high - pressure high strain rate elastic - viscoplastic model for cementitious materials</i> Martin J. Schmidt	SM20L_11955 <i>From dislocation junctions to the three stages curve</i> Thierry Hoc
SM9_L3 <i>Fracture and crack mechanics</i> Chairperson: Roman Bogacz (Poland) Room 208	SM9L_10864 <i>Experimental and numerical crack growth in a special geometry</i> Liviu Marsavina	SM9L_12390 <i>Initial energy dissipation mechanism at crack tip and the ductile to brittle transition</i> Jeffrey W. Kysar	SM9L_10676 <i>Experimental investigation on concrete shear crack extension</i> Huijian Li
SM18_L3 <i>Plasticity and viscoplasticity</i> Chairperson: George Z. Voyiadjis (USA) Room 213	SM18L_10797 <i>Calibration of anisotropic elastic - plastic models for thin layers and foils in microtechnologies: two novel techniques</i> Giulio Maier	SM18L_10064 <i>Metal forming processes conditioned by cyclic loading. a new challenge for the theory of plasticity</i> Ryszard B. Pecherski	SM18L_12469 <i>Development and identification of a probabilistic two - scale model for high cycle fatigue prediction</i> Cedric Doudard

	9:30	9:50	10:10
FSM5_L3 <i>Mechanics of foams and cellular materials</i> Chairperson: Isabelle Cantat (France) Room 219	FSM5L_12435 <i>Drainage of emulsion and foam films in scheludko - exerowa cells</i> J. Coons	FSM5L_12578 <i>Shear - induced normal stress differences in aqueous foams</i> Vincent Labiausse	FSM5L_13033 <i>Nucleation of Cracks in Two - Dimensional Periodic Cellular Material</i> Fabian Lipperman
FM4_L2 <i>Complex and smart fluids</i> Chairperson: Boris Khusid (USA) Room 226	FM4L_10932 <i>Electrospinning of nanofibers from polymer solutions</i> A. L. Yarin	FM4L_10140 <i>Capillary microfluidics for viscoelastic fluids</i> Konstantin G.Kornev	FM4L_11954 <i>Break up of polymer solution drop impacting a small target</i> Aleksey Rozhkov
SM17_L2 <i>Multibody dynamics</i> Chairperson: Harry J. Dankowicz (USA) Room 231	SM17L_11223 <i>Low energy control of periodic motions in manufacturing</i> Nils Guse	SM17L_11700 <i>Configuration control and dynamic analysis of redundant link - type manipulators</i> Kazuo Yamamoto	SM17L_12582 <i>Motion and vibration control of the lift mechanism of a ladder truck</i> Katsuhisa Fujita
FM26_L3 <i>Waves</i> Chairperson: Lev Shemer (Israel) Room 306	FM26L_12087 <i>Effect of horizontal component of the coriolis force on propagation of near - inertial waves in the ocean</i> Victor I. Shrira	FM26L_11290 <i>Standing gravity waves in deep water</i> Gerard Iooss	FM26L_12424 <i>Interaction of an inertia - gravitywave packet with a baroclinic shear flow</i> Chantal Staquet
FM20_L1 <i>Multiphase flows</i> Chairperson: Jacques J. Magnaudet (France) Room 309	FM20L_13012 <i>Statistics and preferential distribution of micro - particles in turbulent boundary layer: implications for resuspension mechanisms</i> Cristian Marchioli	FM20L_12332 <i>Particle turbulence interaction</i> S. Balachandar	FM20L_12092 <i>Gravity induced mixing of miscible fluids in vertical and inclined tubes</i> Thomas Seon
FM19_L3 <i>Magnetohydrodynamics</i> Chairperson: Andre D. Thess (Germany) Room 315	FM19L_12290 <i>Stability of liquid metal drops affected by high - frequency magnetic fields</i> Vaclav Kocourek	FM19L_12330 <i>Quasi - geostrophic dynamos</i> Nathanel Schaeffer	FM19L_12979 <i>Dynamo action in steady helical pipe flow</i> Jonathan A. Mestel
FM12_L2 <i>Flow in porous media</i> Chairperson: Victor N. Nikolaevskiy (Russia) Room 327	FM12L_10671 <i>Infiltration into inclined fibrous sheets</i> I. Eames	FM12L_11343 <i>Confined air - liquid drainage: local analysis and invasion percolation model</i> F. Plouraboue	FM12L_11059 <i>Double - porosity soils with highly conductive inclusions: modeling of water flow in unsaturated conditions</i> Adam Szymkiewicz

10:30 – 11:00 **Break**

11:00 – 13:00 Lecture Sessions

	11:00	11:20	11:40	12:00	12:20	12:40
SM16_L1 <i>Mechatronics</i> Chairperson: Werner Schiehlen (Germany) Room 123	SM16L_10553 <i>Improvement of positioning accuracy of a parallel robot</i> Dominique Debalise	SM16L_10809 <i>Dynamics and control of a hydraulically driven boring plant</i> Friedrich G. Pfeiffer	SM16L_10900 <i>Investigation of powerfull and high precision piezoelectric actuator for two - dimensional positioning</i> Dalius Mazeika	SM16L_11282 <i>Gain - scheduling control of machine tools with varying structural flexibilities</i> Wim Symens	SM16L_12417 <i>A systematic load identification procedure for parallel robot manipulators</i> Horst Schulte	SM16L_12758 <i>Rapid prototyping of model based control algorithms for diesel - engines with turbocharger</i> Matthias Weber
FSM3_L1 <i>Continuum mechanics</i> Chairperson: Jan J. Slawianowski (Poland) Room 124	FSM3L_11171 <i>Weakly nonhomogeneous viscous and viscoplastic flows: stability and mixing</i> Dimitri V.Georgievskii	FSM3L_11227 <i>Nonlinear response of magnetoelastic solids</i> Luis A. Dorfmann	FSM3L_11347 <i>Generalized continuum mechanics: three paths</i> Gerard A. Maugin	FSM3L_11515 <i>Deformation of solder joints under current stressing: experimental measurement and numerical simulation</i> Hua Ye	FSM3L_11818 <i>Extended polar decompositions for finite plane strain</i> Michael A. Hayes	FSM3L_11950 <i>Explicit secular equations for surface and interface waves in anisotropic solids</i> Michel Destrade
SM1_L5 <i>Computational solid mechanics</i> Chairperson: Jaroslaw Knap (USA) Room 134	SM1L_12562 <i>The load cases in numerical model of pelvic bone with artificial acetabulum</i> A. John	SM1L_12723 <i>Modelling of non - uniform deformation of metals with dislocation cell structure</i> E. M. Viatkina	SM1L_12737 <i>Discrete dislocation calculations of the stored energy of cold work</i> A. A. Benzerga	SM1L_12845 <i>Dynamic analysis of gradient elastic solids by beam</i> Dimitri E. Beskos	SM1L_12901 <i>Variable - order singular boundary element for calculation of three - dimensional stress intensity factors</i> Kian - Meng Lim	SM1L_12924 <i>Application of the material force method to structural optimization</i> Ellen Kuhl
FM15_L1 <i>Fluid mechanics of materials processing</i> Chairperson: Geoffrey M. Evans (Australia) Room 144	FM15L_10363 <i>Analysis of flow - induced, step - bunching instabilities during the growth of crystal from liquid solutions</i> Jeffrey J. Derby	FM15L_10860 <i>Relevance of alfvén waves in process metallurgy under a high magnetic field</i> Rene Moreau	FM15L_11893 <i>3d computer simulation of time - depended solutal convection</i> Viatcheslav V. Kolmychkov	FM15L_11929 <i>Convective instabilities in czochralski model</i> V. I. Polezhaev	FM15L_12349 <i>New possibilities for velocity measurements and model experiments in liquid metal processing</i> Andreas Cramer	FM15L_12591 <i>Dynamic simulation of the entire crystal growth process: multi - scale analysis of melt flow transients</i> F. Dupret
SM26_L1 <i>Vehicle dynamics</i> Chairperson: Robin S. Sharp (UK) Room 206	SM26L_11795 <i>Experimental and theoretical analysis of freight wagon link suspension</i> Per - Anders Joensson	SM26L_11832 <i>Mathematical models and simulation of stick - slip processes in a car steering system</i> Zbigniew Lozia	SM26L_11672 <i>A modelling technique for fast computer simulations of configurable vehicle systems</i> Georg Rill	SM26L_11589 <i>Railway vehicle simulation using non - elliptical wheel - rail contact model</i> Vladislav Yazykov	SM26L_10701 <i>Optimal path following road vehicle steering control</i> Robin S. Sharp	SM26L_10909 <i>Simulation and testing of a wheelset with induction motor driven independent wheels</i> S. D. Iwnicki

	11:00	11:20	11:40	12:00	12:20	12:40
SM15_L2 <i>Mechanics of porous materials</i> Chairperson: Ragnar Larsson (Sweden)) Room 208	SM15L_12771 <i>Mesoscale predictions for the thermomechanics of granular energetic composites</i> Michael W. Crochet	SM15L_12903 <i>The structure of constitutive laws for powder metallurgical components</i> Alan C. F. Cocks	SM15L_12917 <i>Experimental characterisation and numerical modelling of density distribution in tablets</i> Csaba I. Sinka	SM15L_13006 <i>Stresses and fractures in capillary - porous materials under drying</i> Jacek Banaszak	SM15L_11941 <i>Coupling between permeability and damage: a micromechanical approach</i> Luc Dormieux	SM15L_11463 <i>Probabilistic homogenization of hyperelastic solid foams</i> Joerg Hohe
FM1_L2 <i>Biological fluid dynamics</i> Chairperson: F.N. van de Vosse (Netherlands) Room 213	FM1L_12400 <i>Cell permeabilisation and transport focused around oscillating microbubbles</i> Philippe Marmottant	FM1L_12423 <i>Red blood cell dynamics, deformation and rheology via microfluidic experiments</i> Manouk Abkarian	FM1L_12522 <i>Flow in an integrated model of heart and aorta</i> Masanori Nakamura	FM1L_12784 <i>On the issue of optimal trans - mitral flow</i> M. Gharib	FM1L_11851 <i>A CFD Study of the Effects of Physiological Vessel Wall Motion on Oxygen Transport in Coronary Arteries</i> Maheshwaran K. Kolandavel	FM1L_12124 <i>Direct numerical simulation of red blood cell flow and aggregation</i> Cyrus K. Aidun
SM8_L1 <i>Fatigue</i> Chairperson: Jaime Dominguez (Spain) Room 219	SM8L_11686 <i>A microscopic mechanics model</i> Yi Sun	SM8L_11927 <i>Stress concentrations caused by dislocations at the free surface</i> Steffen Brinckmann	SM8L_10698 <i>Influence of contact conditions on fretting fatigue under spherical contact</i> Carlos Navarro	SM8L_12391 <i>Characteristics of very - high - cycle fatigue for a high carbon low alloy steel</i> Hong Youshi	SM8L_12217 <i>Energy release rate approach for delamination in a fatigue crack configuration in glare</i> Rene Alderliesten	
SM22_L2 <i>Stability of structures</i> Chairperson: Alexander P. Seyranian (Russia) Room 226	SM22L_12084 <i>Buckling and imperfection - sensitivity of axially compressed cylindrical shells with compliant cores</i> H. Obrecht	SM22L_11816 <i>On the stability of the sky - hook</i> Hans Troger	SM22L_12297 <i>Stability of shear - flexible frames</i> Esben Byskov	SM22L_12558 <i>Generalised beam theory formulation to analyse the post - buckling behaviour of orthotropic laminated plate thin - walled members</i> Dinar Camotim	SM22L_12934 <i>Dynamic instability of a high - speed flexible shaft with a massive disc and follower load</i> .Jaroslaw Weronko	SM22L_10915 <i>Statical models to illustrate special instabilities</i> Zsolt Gaspar

	11:00	11:20	11:40	12:00	12:20	12:40
SM27_L1 <i>Viscoelasticity and creep</i> Chairperson: Nobutada Ohno (Japan) Room 231	SM27L_10906 <i>Sintering simulation of stainless steel powder compacts</i> Renata S. Engel	SM27L_11201 <i>Characterisation of the cyclic behaviour of elastic - plastic - creeping bodies</i> Alan R. S. Ponter	SM27L_11368 <i>A creep continuum damage theory for beams, plates and shells</i> Holm Altenbach	SM27L_11827 <i>Constitutive modeling of rubber components under small vibration superimposed on large static deformation considering strain - dependent properties</i> Ji - Hyun Cho	SM27L_12450 <i>A model of cyclic viscoplasticity with special reference to yield - point phenomena</i> Fusahito Yoshida	SM27L_11506 <i>Multiscale modeling schemes spanning a large range of scales</i> Jinghong Fan
FM24_L2 <i>Turbulence</i> Chairperson: Bernd R. Noack (Germany) Room 306	FM24L_10937 <i>Interaction between a columnar vortex and external turbulence</i> Naoya Takahashi	FM24L_12564 <i>3d - measurements in an adverse - pressure - gradient turbulent boundary layer over smooth and ribbed surfaces</i> Thomas Indinger	FM24L_12757 <i>On the structure of turbulence and reynolds stress distribution in the bottom boundary layer of the coastal ocean</i> Lukša Luznik	FM24L_12876 <i>Study of the turbulent energy spectrum build up in an experimental vortex burst</i> Yannis Cuypers	FM24L_12965 <i>Impact of pressure - gradient conditions on high reynolds number turbulent boundary layers</i> Hassan Nagib	FM24L_12675 <i>Resonant interactions of 3d instability waves in an airfoil boundary layer for harmonic and broadband perturbations</i> V. I. Borodulin
FM25_L2 <i>Vortex dynamics</i> Chairperson: Ewa Tuliszka-Sznitko (Poland) Room 309	FM25L_12051 <i>The development of an axisymmetric gravity current</i> M. D. Patterson	FM25L_11615 <i>Curvature instability of a vortex ring</i> Yasuhide Fukumoto	FM25L_12275 <i>Coherent structure of point vortices influenced by uniform straining flow</i> Marcin Kurowski	FM25L_12690 <i>Strong shock - vortex interaction a numerical study</i> W. Schroeder	FM25L_12748 <i>Isolated vortices over seamounts: laboratory experiments and numerical simulations</i> O. U. Velasco Fuentes	FM25L_11964 <i>Spontaneous Sign Reversals in Self-Organized States of Forced Two-Dimensional Turbulence on a Bounded Square Domain</i> GertJan F. van Heijst
FM20_L2 <i>Multiphase flows</i> Chairperson: S. Balachandar (USA) Room 315	FM20L_10843 <i>Viscous and Viscelastic Potential Flow</i> Daniel D. Joseph	FM20L_12139 <i>Oscillatory motion of freely - moving light bodies: from cylinders to disks</i> F. Risso	FM20L_12342 <i>Non - uniform flow hydrodynamics of deformable shapes</i> T. Miloh	FM20L_12383 <i>Mean motion induced in a liquid by rising bubbles</i> Veronique Roig	FM20L_12397 <i>Plane couette flow of dense liquid - particle suspensions</i> Jos Derksen	FM20L_12440 <i>The effect of bubbles on developed turbulence</i> Stefan Luther
FM8_L2 <i>Drops and bubbles</i> Chairperson: Jacques J. Magnaudet (France) Room 327	FM8L_11999 <i>Cavitation inception on micro-particles: a self propelled particle accelerator</i> Manish Arora	FM8L_12429 <i>A long-wavelength model of viscous entrainment</i> Wendy W. Zhang	FM8L_12769 <i>Lift force on bubbles and particles in a rotating cylinder</i> Stefan Luther	FM8L_12741 <i>Low - reynolds - number motion of a drop between two parallel plane walls</i> Andrew J. Griggs	FM8L_13025 <i>Singular droplets</i> Salima Rafai	FM8L_11411 <i>High-frequency linear viscosity of emulsions composed of two viscoelastic fluids</i> Eligiusz Wajnryb

13:00 – 14:30 **Lunch**

14:30 – 15:30 **Closing Lecture**

Main Aula

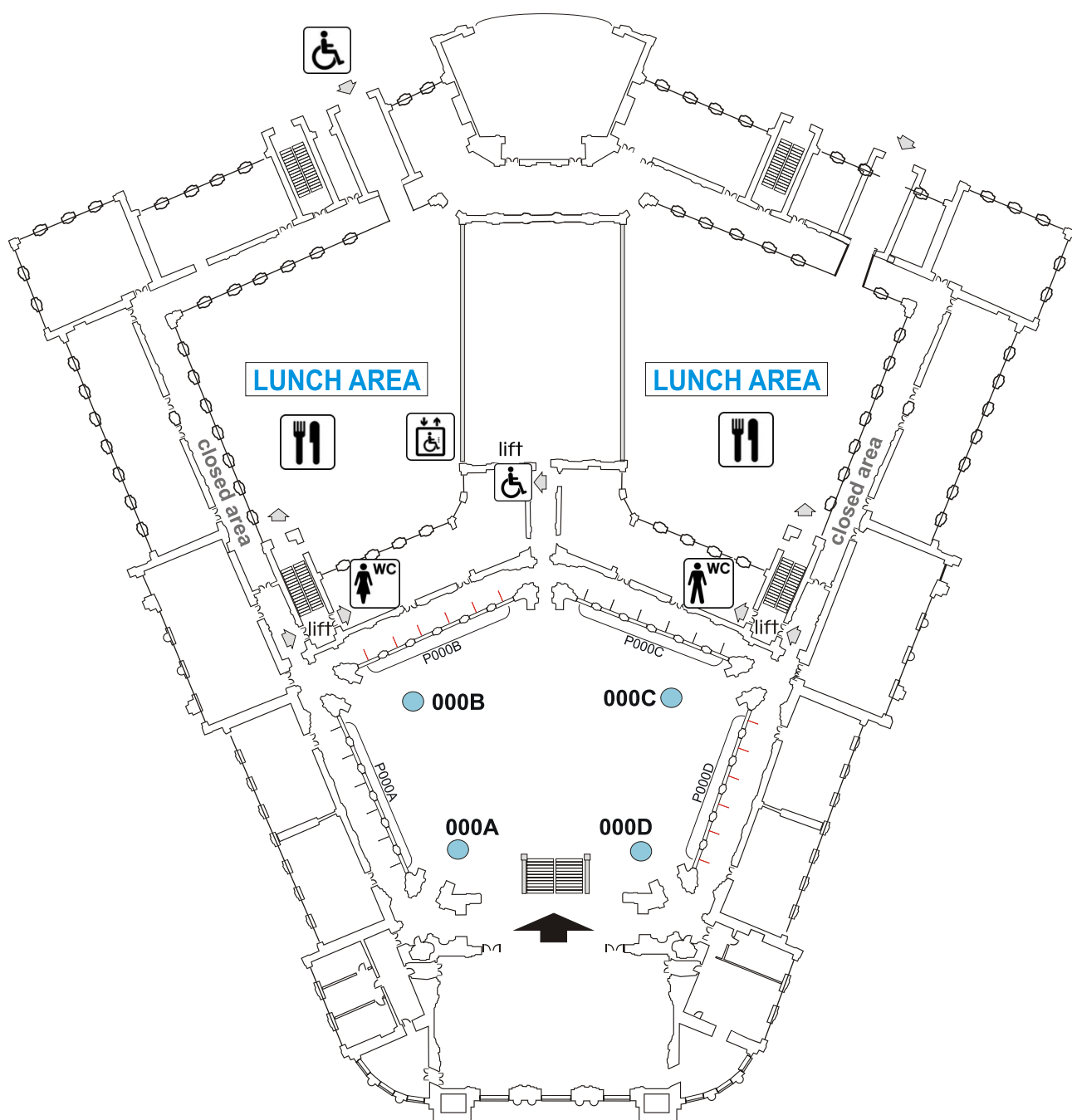
Presiding: Stephen H. Crandall & Włodzimierz Kurnik

CLI_10697

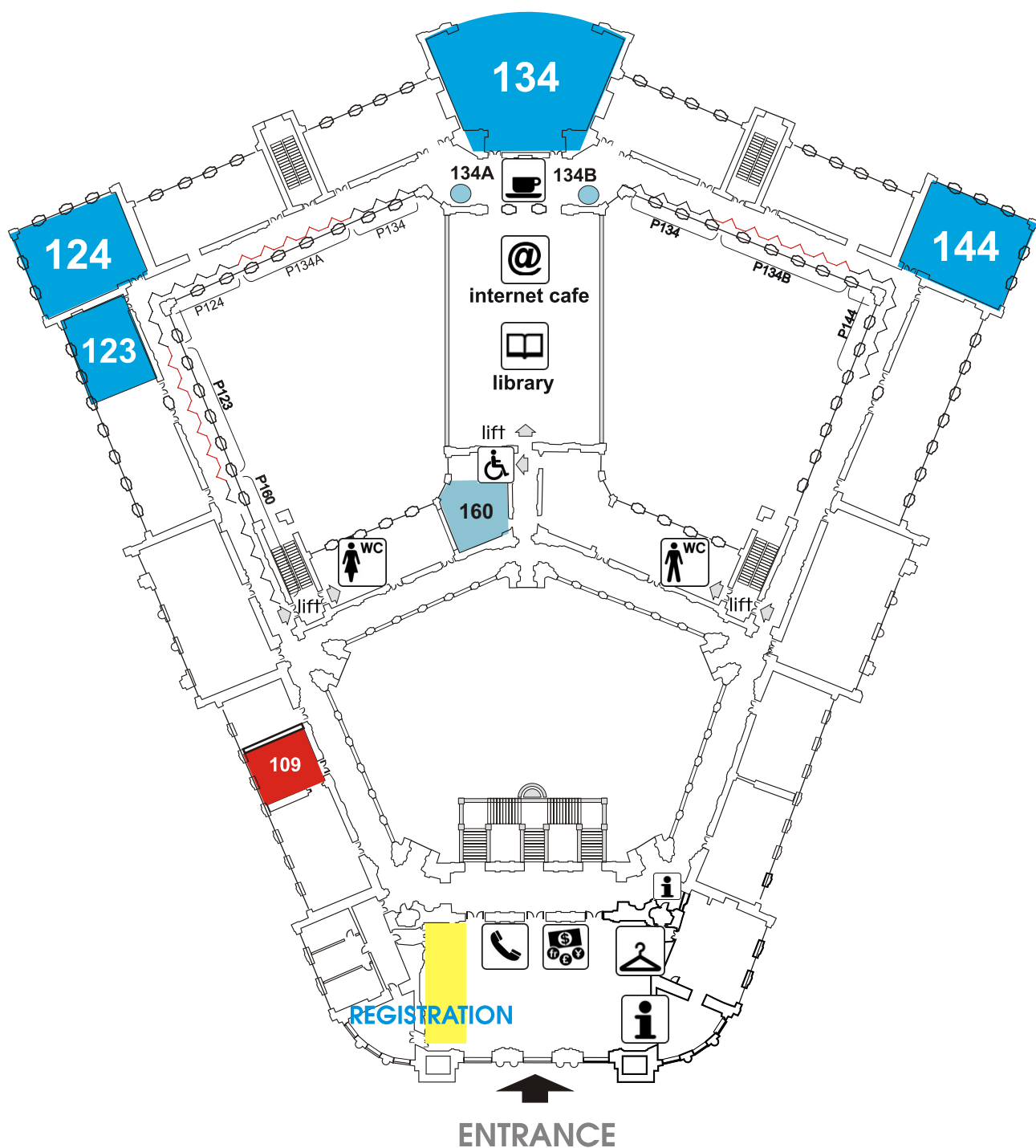
Stochastic Dynamics of Engineering Systems

Kazimierz Sobczyk

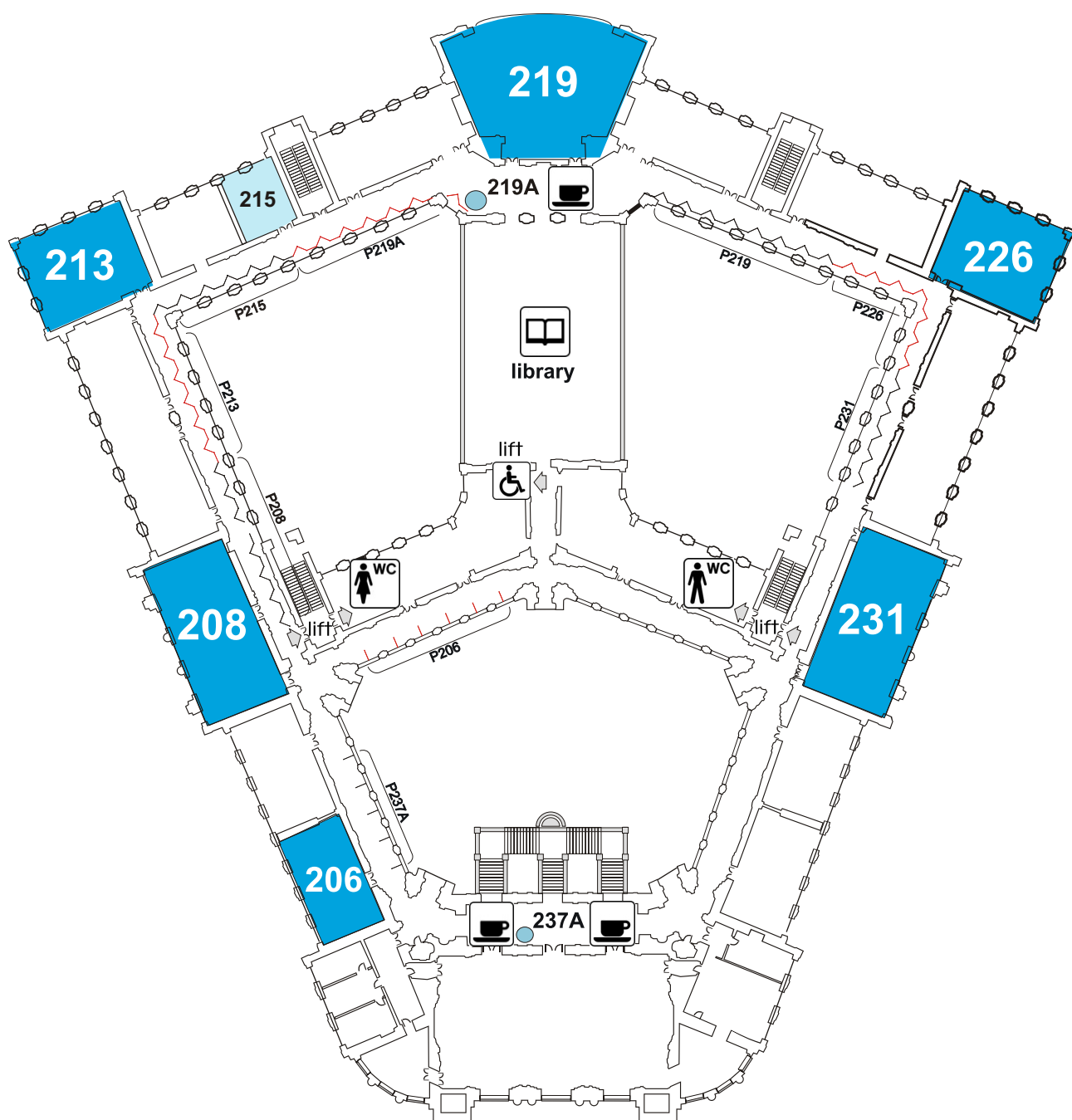
15:30 – 16:30 **Closing Ceremony**

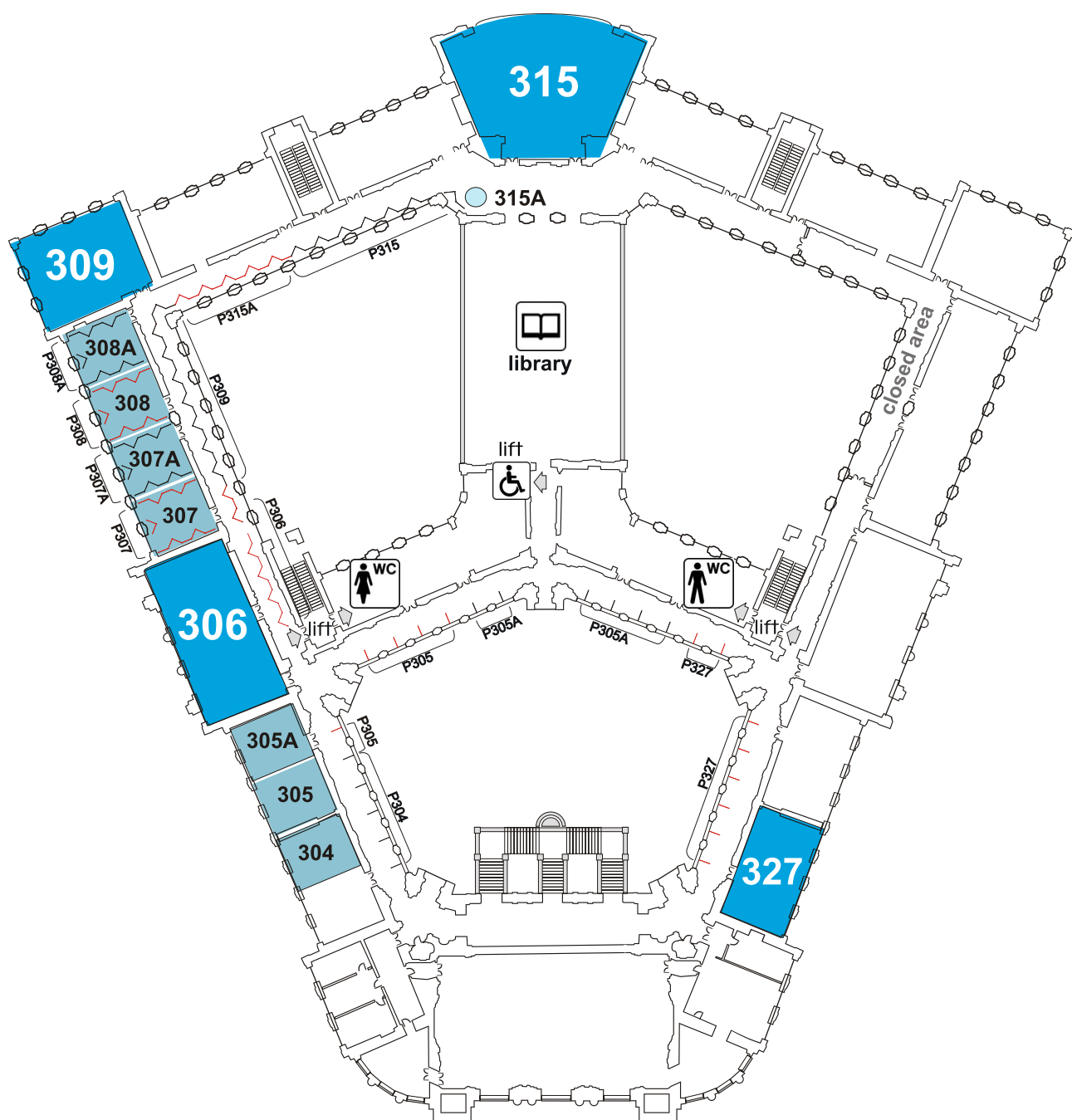


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Acknowledgements

The Local Organizing Committee is grateful to the following individuals and institutions for providing support for ICTAM04:



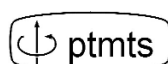
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Programme Overview

	Sunday, August 15	Monday, August 16	Tuesday, August 17	Wednesday, August 18	Thursday, August 19	Friday, August 20
8:00						
9:00		Registration	Mini-Sym. Intro Lect's	Lecture Sessions	Sectional Lectures	Sectional Lectures
10:00		Opening Ceremony	Sectional Lectures	Break	Lecture Sessions	Lecture Sessions
11:00		Opening Lecture	Break	Lecture Sessions	Break	Break
12:00		Lunch	Lecture Sessions	Lecture Sessions	Lecture Sessions	Lecture Sessions
13:00			Lunch	Lunch	Lunch	Lunch
14:00		Mini-Symposia Introductory Lectures	Lunch	Lunch	Lunch	Closing Lecture
15:00	Registration	Break	Seminar Presentation Sessions	Excursions	Seminar Presentation Sessions	Closing Ceremony
16:00		Lecture Sessions	Break		Break	
17:00			Lecture Sessions		Marie-Curie 6FP Session	
18:00						
19:00	Get-together Party	Welcome Reception		Folk Dance "Kongresowa" Palace of Culture		
20:00					Conference Banquet	
21:00						
22:00						
23:00						

All sessions will take place in the Main Building of Warsaw University of Technology

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