

### **XIII Finnish Mechanics Days**

The XIII Finnish Mechanics Days conference is held in Helsinki on August 29–31, 2018, at Aalto University conference center Chydenia in the Töölö campus, Helsinki.

#### **Background**

The first Finnish Mechanics Days conference was held in Oulu, 36 years ago in 1982. Since then, the conference has been organized every three years. The objective of the conference is to stimulate and promote *academic research and industrial development of engineering applications* within various areas of mechanics, ranging from solid and soil mechanics to fluid mechanics. The conference provides a forum for researchers, engineers, teachers and other professionals to network, discuss and share ideas and information.

Nowadays, the conference attracts not only Finnish speaking participants: both universities and research and development departments of research institutes and companies hire more and more international professionals, and participants from Nordic, Baltic and other European countries have started to found their ways to the conference. Typically, the two conferences days include almost one hundred presentations, including invited plenary lectures and talks at minisymposia.

#### **Conference Themes and Organising Committee**

The themes of the conference cover theoretical, computational and experimental mechanics of solids, soils, rocks and fluids – including a large variety of engineering applications: static and dynamic analysis of structures; mechanics of materials; fluid dynamics; fluid-structure interaction; fracture mechanics; fatigue; thermomechanics; micromechanics; contact mechanics; structural optimization; numerical analysis; multibody dynamics; mechatronics; design of structures and machines; industrial and medical applications of mechanics etc.

In 2018, a special emphasis is given to *collaboration between different fields* – such as civil engineering, mechanical engineering and fluid dynamics – and *collaboration between industry and academia*.

#### **Department of Civil Engineering, School of Engineering, Aalto University**

Juha Paavola, Professor of Structural Mechanics, Conference Chairman

Jarkko Niiranen, Assistant Professor of Computational Structural Engineering, Conference Chairman

Mikael Rinne, Professor of Rock Mechanics

Lauri Uotinen, Chairman of Finnish Association of Structural Mechanics

#### **Department of Mechanical Engineering, School of Engineering, Aalto University**

Pentti Kujala, Vice Dean, Professor of Marine Technology

Ville Vuorinen, Assistant Professor of Computational Fluid Dynamics in Energy Technology

Jouni Freund, University Lecturer of Mechanics of Materials

#### **VTT Technical Research Centre of Finland**

Tuomas Sipilä, Research Team Leader, Marine and Arctic Technology

#### **CSC – IT Center for Science**

Peter Råback, Product Manager, Elmer software

#### **Program**

The two-day program follows the frame (attached on the next page) of the 50 years anniversary seminar of *Rakenteiden Mekaniikka – Journal of Structural Mechanics* organized in August 2017 in Vaasa, Finland.

### Preliminary Program for the XIII Finnish Mechanics Days 2018

<b>Wednesday, August 29</b>	
18.00–19.00	Pre-registration at X, Y
19.00–20.00	Reception at Helsinki Town Hall, Pohjoisesplanadi 11–13
20.00–22.00	Get-together night at Brewery-Restaurant Bryggeri Helsinki, Sofiakatu 2

<b>Thursday, August 30</b>				
8.00–9.00	Registration at Chydenia, Runeberginkatu 22–24			
9.00–9.15	Opening, NN			
<b>9.15–10.00</b>	<b>Plenary lecture 1</b> Prof. Emer. Laszlo Fuchs, KTH, Sweden <i>Fluid mechanics of blood flow in life saving devices: accomplishments and challenges</i> <b>Word for Diamond Partner</b>			
10.00–10.30	Coffee break			
<b>10.30–12.30</b>	<b>Session 1A</b> Topic: X Chair: NN	<b>Session 1B</b> Topic: X Chair: NN	<b>Session 1C</b> Topic: X Chair: NN	<b>Session 1D</b> Topic: X Chair: NN
12.30–13.30	Lunch at Fazer Chydenia			
<b>13.30–14.15</b>	<b>Plenary lecture 2</b> Prof. Emer. Viggo Tvergaard, DTU, Denmark <i>Modelling ductile fracture at moderate to low stress triaxiality</i> <b>Word for Diamond Partner</b>			
14.15–14.45	Coffee break			
<b>14.45–16.45</b>	<b>Session 2A</b> Topic: X Chair: NN	<b>Session 2B</b> Topic: X Chair: NN	<b>Session 2C</b> Topic: X Chair: NN	<b>Session 2D</b> Topic: X Chair: NN
17.00–19.00	Brainstorming Sessions on Collaboration at Chydenia			
	Excursion to X, Y			
20.00–24.00	Banquet at Restaurant Meripaviljonki, Säästöpankinranta 3, Helsinki			

<b>Friday, August 31</b>				
<b>9.15–11.15</b>	<b>Session 3A</b> Topic: X Chair: NN	<b>Session 3B</b> Topic: X Chair: NN	<b>Session 3C</b> Topic: X Chair: NN	<b>Session 3D</b> Topic: X Chair: NN
11.15–11.45	Coffee break			
<b>11.45–12.30</b>	<b>Plenary lecture 3</b> CEO, DSc (Tech) Patrik Rautaheimo: <i>Topic to be announced</i> <b>Word for Diamond Partner</b>			
12.30–13.30	Lunch at Amica Chydenia			
<b>13.30–15.30</b>	<b>Session 4A</b> Topic: X Chair: NN	<b>Session 4B</b> Topic: X Chair: NN	<b>Session 4C</b> Topic: X Chair: NN	<b>Session 4D</b> Topic: X Chair: NN
15.30–15.45	Closing, NN			
15.45–16.15	Coffee break			