



**Israel Association for Computational Methods in Mechanics – IACMM**  
**54<sup>th</sup> Israel Symposium on Computational Mechanics – ISCM54**  
**Thursday, December 25, 2025**

**Morning session**

<b>08:45</b>	<b>Registration</b>
<b>09:20 – 09:30</b>	<b>Greetings</b> <b>Prof. Ori Lahav</b> <i>Dean of the Faculty of Civil and Environmental Engineering</i>
<b>09:30 – 12:00</b>	<b>Lecture session A</b>
<b>09:30 – 10:00</b>	<b>Lea Beilkin-Sirota</b> <i>School of Mechanical Engineering, Tel Aviv University</i> Feedback-based metamaterials for enhanced waveguiding – Keynote Lecture
<b>10:00 – 10:20</b>	<b>Dror Raf, Amit Ashkenazi, Itay Magen, <u>Dana Solav</u></b> <i>Faculty of Mechanical Engineering, Technion-Israel Institute of Technology</i> Soft hyperelastic orthotropic lattice structures: Numerical homogenization and experimental validation
<b>10:20 – 10:40</b>	<b><u>Rishi Kulshrestha</u>, Mohit Goswami, Konstantin Volokh</b> <i>Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology</i> Soft mechanics of physically cross-linked hydrogels
<b>10:40 – 11:00</b>	<b><u>Maxime Levy</u> and Zohar Yosibash</b> <i>School of Mechanical Engineering, Tel Aviv University</i> A Phase field model for heterogeneous materials with application to bone fracture
<b>11:00 – 11:20</b>	<b>O. Rashti, Rami Eid, S. Greenberg, <u>Erez Gal</u></b> <i>Department of Civil and Environmental Engineering, Ben Gurion University of the Negev</i> Strut and Tie ML AI models for reinforced concrete analysis
<b>11:20 – 11:40</b>	<b><u>Mikhail Kholodniak</u>, Artem Panchenko, Igor Berinskii</b> <i>School of Mechanical Engineering, Tel Aviv University</i> On deep learning calibration for DEM simulation of sedimentary and igneous rocks
<b>11:40 – 12:00</b>	<b><u>Rachel Yovel</u>, Yunhui He, Eran Treister</b> <i>Faculty of Computer and Information Science, Ben-Gurion University of the Negev</i> Additive Vanka smoothing improves scalability of shifted Laplacian multigrid preconditioner for the acoustic Helmholtz equation
<b>12:00 – 13:15</b>	<b>Lunch break</b> IACMM Council meeting
<b>13:15 – 13:30</b>	<b>IACMM General Assembly</b>



**Afternoon sessions**

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| <b>13:30 – 15:20</b> | <b>Lecture session B</b>                                                                                                                                                                                                                                                                              |
| <b>13:30 – 14:00</b> | <p><b><u>Miles B. Rubin</u>, Andrea Panteghini</b><br/><i>Faculty of Mechanical Engineering, Technion-Israel Institute of Technology</i><br/>A purely mechanical version of a thermomechanical Eulerian formulation of a size-dependent elastic-inelastic Cosserat continuum – Keynote Lecture</p>    |
| <b>14:00 – 14:20</b> | <p><b><u>Ty Phuor</u>, Pavel A. Trapper</b><br/><i>Civil and Environmental Engineering Department, Ben-Gurion University of the Negev, Beer Sheva, Israel</i><br/>Skew-boundary condition incorporating the load-controlled implicit elastoplastic FEM for bearing capacity of jack-up rig</p>        |
| <b>14:20 – 14:40</b> | <p><b>Ameer Marzok</b><br/><i>Faculty of Aerospace Engineering, Technion – Israel Institute of Technology</i><br/>Layout and shape optimization of thin-walled beams with buckling considerations</p>                                                                                                 |
| <b>14:40 – 15:00</b> | <p><b><u>Nir Itzhak Ben-Israel</u>, Michalis Fragiadakis, Oren Lavan</b><br/><i>Faculty of Civil and Environmental Engineering, Technion-Israel Institute of Technology</i><br/>Efficient reliability-based design optimization of dynamic linear systems subjected to filtered white-noise input</p> |
| <b>15:00 – 15:20</b> | <p><b><u>Mordechai Buzaglo</u>, Nicolò Pollini</b><br/><i>Faculty of Mechanical Engineering, Technion-Israel Institute of Technology</i><br/>First-order equivalent static loads for dynamic response optimization</p>                                                                                |
| <b>15:20 – 15:40</b> | <b>Coffee break</b>                                                                                                                                                                                                                                                                                   |
| <b>15:40 – 17:00</b> | <b>Lecture session C</b>                                                                                                                                                                                                                                                                              |
| <b>15:40 – 16:00</b> | <p><b><u>Leon Chernin</u>, Margi Vilnay</b><br/><i>School of Science and Engineering, University of Dundee, UK</i><br/>Modelling fidelity of offshore jacket platforms</p>                                                                                                                            |
| <b>16:00 – 16:20</b> | <p><b><u>Yaron Franco</u>, Amir Degani</b><br/><i>Faculty of Civil and Environmental Engineering, Technion-Israel Institute of Technology, Haifa, Israel</i><br/>Discrete body dynamics method for open- and closed-chain systems with joint compliance</p>                                           |
| <b>16:20 – 16:40</b> | <p><b><u>Orna Agmon Ben-Yehuda</u>, Solal Amouyal</b><br/><i>NextSilicon Ltd, Givataim, Israel</i><br/>Accelerating numerical computations using NextSilicon Maverick-II</p>                                                                                                                          |
| <b>16:40 – 17:00</b> | <p><b><u>Ariel E. Cohen</u>, Z. Amrar, M. Nahmany</b><br/><i>Nuclear Research Center Negev (NRCN)</i><br/>Prediction of residual stress distribution at GTAW welded thin-walled aluminum pipes utilizing COMSOL multiphysics, validated by micro-hardness analysis</p>                                |
| <b>17:00</b>         | <b>Closing</b>                                                                                                                                                                                                                                                                                        |