IACAS

The 65th Israeli Annual Conference on Aerospace Sciences

Program

28 May, 2026

Dan-Panorama Hotel, Tel Aviv

IACAS 2026 – PROGRAM-Thursday, 28 May, 2026		
Time/Code	Session	Hall
9:00-13:00		
9:00-9:10	**Welcoming Address:** BG (res.) Eytan Eshel, Chair, IACAS-2026	Hall A
9:10-10:00	**Keynote Speaker:** Boaz Levi, President and CEO, Israel Aerospace Industries (IAI)	
10:00-10:50	**Plenary Lecture I:** Prof. Eli Livne of the University of Washington	
Coffee Break 10:50-11:20		
11:20-12:10	**Plenary Lecture II:** Pro. Masha Folk, Massachusetts Institute of Technology (MIT)	
12:10-13:00	**Plenary Lecture III:** Prof. Meir Ariel, Tel Aviv University	
Lunch 13:00-14:00		
Parallel Sessions 14:00-16:00		
ThL1T1	Guidance, Navigation, and Control I	A
ThL1T2	Aerodynamics, Fluid Dynamics, and Aeroacoustics I	B
ThL1T3	Aerospace Design, Manufacturing, and Maintenance	C
ThL1T4	Aeroelasticity, Fluid-Structure Interaction	D
ThL1T5	Astrodynamics and Space Systems	E
Coffee Break 16:00-16:40		
Parallel Sessions 16:20-18:20		
ThL2T1	Guidance, Navigation, and Control II	A
ThL2T2	Aerodynamics, Fluid Dynamics, and Aeroacoustics II	B
ThL2T3	Fluid Mechanics, Flow Control, Turbulence, and Transition	C
ThL2T4	Combustion and Reactive Flows	D
ThL2T5	Computational Fluid Dynamics, Meshing, and Visualization	E

Keynote Speaker — Hall A

Chair: BG (res.) Eytan Eshel, Chair, Organizing Committee IACAS 2026
Executive VP for Technology, Research, Development & Innovation, IAI

Mr. Boaz Levy, President and CEO of IAI

The role of the defense industry in shaping the future battlefield

Short Bio:
*Boaz Levy has served as President and CEO of Israel Aerospace Industries (IAI) since 2020.

*He began his career in the Israeli Air Force, specializing in air-to-air guided weapon systems and missile technologies. He holds a B.Sc. in Aeronautical and Space Engineering and an M.Sc. in Systems Engineering, both from the Technion-Israel Institute of Technology.

*Levy joined IAI in 1989 at the MLM Division as an engineer on the founding team of the Arrow program, later serving as Program Director. Under his leadership, the Arrow 3 interceptor system became operational in the Israel Defense Forces.

*Over the years, he advanced through several senior management roles, including General Manager of IAI's Air & Missile Defense Systems Division, where he established the Barak 8 air defense program. He subsequently led the company's Missile Systems & Space Group.

*Throughout his career, Levy has been a partner in multiple Israel Defense Prize awards. In 2025, he was once again named to the 50 Most Influential Jews list by The Jerusalem Post, and was also included in the Top 100 Positively Influential Jews list by The Algemeiner.

*He was selected to light the "Torch of Defense" at Israel's 76th Independence Day ceremony.

*Levy is 64, married to Bat Chen, father of two, and grandfather of one.

Plenary Lecture I — Hall A

Chair: Professor Gil Iosilevskii, Dean, The Steven B. Klein Faculty of Aerospace Engineering, The Technion

Professor Eli Livne, the Boeing Professor of Aeronautics and Astronautics at the William E. Boeing Department of Aeronautics and Astronautics at the University of Washington in Seattle, USA

The awardee of the 2026 International Hanin Prize

The Aeroservoelasticity of High Aspect Ratio Wings with Many Control Surfaces – Recent Progress

Abstract:
Longer and thinner wings, optimized for weight and aerodynamic performance, would benefit significantly from, if not rely on, active control technology for maneuver load control and gust loads alleviation, as well as modal damping augmentation or flutter suppression. The talk will survey parallel efforts in Europe and the US in this area that have been built on university, industry, and national research lab partnerships and that have been focused on wind tunnel experimental work, leading to advances in math modeling, simulation, control, and design insights. Thoughts on the role of the research university in the development of aeroelastic / aeroservoelastic technology will also be shared.

Short Bio:
Eli Livne is the Boeing Professor of Aeronautics and Astronautics at the William E. Boeing Department of Aeronautics and Astronautics at the University of Washington in Seattle, USA. His years of experience include analysis, design, and test work on various civil and military aircraft as well as teaching and research in the areas of aeroelasticity, aeroservoelasticity, multidisciplinary design optimization (MDO) of aeronautical systems, applied aerodynamics, and aircraft design.
Professor Livne was the Editor in Chief of the AIAA's Journal of Aircraft from 2011 to 2022. He is the recipient of the AIAA's Holt Ashley Award for Aeroelasticity as well as the International Council for the Aeronautical Sciences (ICAS) Award for Innovation in Aeronautics "for seminal contributions to the theory and practice of Aeroservoelasticity in the context of aircraft Multidisciplinary Design Optimization, and pioneering work towards the maturation of aircraft active flutter suppression technology." He is a Fellow of the AIAA.

Plenary Lecture II — Hall A

Chair: BG (res.) Eytan Eshel, Chair, Organizing Committee IACAS 2026
Executive VP for Technology, Research, Development & Innovation, IAI

Pro. Masha Folk, Massachusetts Institute of Technology (MIT)

Engineering a Sustainable Aviation Future

Abstract:
This session examines the engineering challenges underlying aviation sustainability. As demand for air transportation continues to grow, achieving meaningful reductions in climate impact requires rethinking how aircraft are operated, how they are designed and powered, and how new capabilities are introduced into a safety-critical global system. Sustainability gains span both near-term improvements to existing aircraft and operations and longer-term technologies that transform aircraft design, propulsion, and efficiency across the aviation network. Progress along both pathways requires pace and breadth, and engineers who can integrate decisions across disciplines under real constraints. This, in turn, raises fundamental questions about how engineers are trained, how research and industrial environments are structured to support rapid cross-disciplinary iteration, and how emerging tools such as artificial intelligence can accelerate learning and design without compromising rigor or safety. Addressing aviation sustainability at scale therefore demands not only new technologies, but new approaches to engineering practice, education, and collaboration.

Short Bio:
Professor Masha Folk is the Charles Stark Draper Career Development Assistant Professor in the Department of Aeronautics and Astronautics at MIT. She leads research in gas turbine aerodynamics and sustainable propulsion at the Gas Turbine Laboratory and the Laboratory for Aviation and the Environment. Her work combines fundamental fluid dynamics with practical solutions that can accelerate the decarbonization of aviation.
Before joining MIT, she spent 14 years at Rolls-Royce as an aerothermal specialist, tackling industry challenges across the design, development, and operation of gas turbine engines, including efforts with sustainable fuels. She holds a Ph.D. in Energy, Fluids, and Turbomachinery from the University of Cambridge (2020), an M.Res. from Cambridge (2015), an M.S. from Purdue University (2014), and a B.S. in Aerospace Engineering from The Ohio State University (2010). Her doctoral work on combustor–turbine interaction was recognized with the 2019 ASME Gas Turbine Award for the most outstanding contribution in the field. At MIT, Professor Folk also teaches thermodynamics and propulsion, where she integrates theory with practice to train future engineers to advance sustainable power and propulsion, ensuring the field continues to meet urgent decarbonization goals.

Plenary Lecture III — Hall A

Chair: Dr. Daniel Portnoy, Tel-Aviv University, Chair of the Program Committee IACAS 2026

Pro. Meir Ariel, Tel-Aviv University

From Idea to Orbit: How Nanosatellites Enable Research and Inspire Learning

Abstract:
This talk presents the nanosatellite R&D activities at Tel Aviv University, highlighting both the scientific challenges and the educational impact of small satellite missions. We focus on low-power nanosatellites that operate under significant constraints—including sensitivity of both hardware and software to cosmic radiation, limited pointing accuracy, and fluctuating signal-to-noise ratios—yet serve as robust platforms for cutting-edge research in high-speed communications, information theory, hyperspectral imaging, quantum key distribution, radiation monitoring, and in-space manufacturing.
The Tel Aviv University Space Engineering Center provides full end-to-end capabilities for nanosatellite design, integration, testing, and operation. What makes nanosatellite R&D especially powerful is its inherently interdisciplinary nature—bringing together mechanical and thermal design, control theory, energy and propulsion systems, communications and information theory, software engineering, and mission-specific science. This diversity enables students at all levels to engage in hands-on, domain-specific research.

We also operate national project-based learning (PBL) programs for high school students, particularly from underserved communities. These initiatives allow young learners to contribute to real space missions, promoting scientific excellence and helping bridge educational gaps across regions.

Short Bio:
Prof. Meir Ariel is Head of the Space Engineering Center at Tel Aviv University. He earned his B.Sc. and M.Sc. (with honors) in Electrical Engineering and a Ph.D. in Algebraic Group Theory from Tel Aviv University. With over 30 years of R&D leadership in signal processing, wireless communications, and space technologies, he has held senior positions in both industry and the public sector. He leads advanced nanosatellite research and development, with 24 research nanosatellites successfully launched to date. His research focuses on information theory, error-correction codes, data compression, and post-quantum cryptography. He holds 15 patents in information theory and has received the Marco Polo Society Award (2018), as well as recognition from Israel's Ministry of Science and Technology as one of the country's 60 pioneering inventors (2016).

Guidance, Navigation, and Contro I — Hall A

Chair: Daniel Choukroun (Ben-Gurion University of the Negev)

14:00-14:20 **Robustness of the Kalman filter in a deterministic framework: the continuous time case**

Martin Weiss (Technion)

14:20-14:40 **Pose Determination using Dual vector Observations**

Caitong Peng (Ben-Gurion University), Daniel Choukroun (Ben-Gurion University of the Negev)

14:40-15:00 **A Rapidly Switching Interacting Multiple Model Algorithm**

Zohar Kolberg (Rafael), Daniel Sigalov (Rafael)

15:00-15:20 **Robust Control of a Hypersonic Gliding Vehicle**

Bar Gawi (Technion), Moshe Idan (Technion), Oded Golan (Technion)

15:20-15:40 **Manoeuvre Load Alleviation Control Design for the T-Flex Demonstrator UAV**

Előd István Király (HUN-REN), Izabel Laura Nagy (Budapest University), Balint Vanek (MTA SZTAKI), Bela Takarics (HUN-REN)

15:40-16:00 **AI-Aided Gyroscope Calibration and Gyrocompassing**

Itzik Klein (University of Haifa)

Aerodynamics, Fluid Dynamics, and Aeroacoustics I — Hall B

Chair: Hadar Ben-Gida (Technion)

14:00-14:20 **Simulation of the Technion Arc-Plasma Heated Wind Tunnel Using COMSOL**

Jonathan Shevah (Technion), David Yanuka (Technion)

14:20-14:40 **Computational Study of Static Structural Deformation Effects on Small-Scale Rotor Aeroacoustics in Hover**

Hadar Ben-Gida (Israeli Air Force), Aharon Karon (IAI), Aleksandra Kvurt (IAI)

14:40-15:00 **Evaluation of Noise Modulation Metrics for Small-Scale Low-Reynolds Rotor in Hover**

Aleksandra Kvurt (IAI), Aharon Karon (IAI), Hadar Ben-Gida (Israeli Air Force)

15:00-15:20 **Psychoacoustic Analysis of High-Frequency Rotor Noise Modulated by the Blade-Pass Frequency**

Aharon Karon (IAI), Aleksandra Kvurt (IAI), Hadar Ben-Gida (Technion)

15:20-15:40 **Tunable Bifurcation-Based Micro Flow Sensor for Aeronautical Applications**

Ivan Litvinov (Tel Aviv University), Gal Spaer Milo (Tel Aviv University), Alex Liberzon (Tel Aviv University), Slava Krylov (Tel Aviv University), Zvika Fayer (MAAFAT IDF), Eldad Yichie (Rafael LTD), Haim Ben Bahar (Rafael LTD), Ronen Maimon (Rafael)

15:40-16:00 **Linear stability theory revisited using the BGK approximation of the Boltzmann equation**

Mor Aharoni (Technion), Vassilis Theofilis (Technion)

Aerospace Design, Manufacturing, and Maintenance — Hall C

Chair:

14:00-14:20 **Crippling in Bending Investigation**

Steve Katzeff (IAI)

14:20-14:40 **Micromechanics-based Fatigue Damage Modeling of Laminated Composite Structures**

Yaara Lavi (IAI), Aviad Levi Sasson (IAI), Rami Eliasy (Tel Aviv University), Yuval Freed (IAI), Yael Buimovich (IAI), Rami Haj-Ali (Tal Aviv University)

14:40-15:00 **Prestressed Cyclic SuperElements for Harmonic Balance Method**

Ravoux Julien (Ansys), Yohan Gouetta (Ansys), Ben Cohen (Ansys)

15:00-15:20 **A novel phase field approach for dynamic fracture based on the mixed-Lagrangian formulation**

Sudipta Naskar (Technion), Ameer Marzok (Technion)

15:20-15:40 **AI and ML Strategies to predict CFD results**

Naor Zadok (Tel Aviv University), Nadav Itzhak (Rafael)

Aeroelasticity, Fluid-Structure Interaction — Hall D

Chair: Maxim Freydin (Technion)

14:00-14:20 **Aeroelasticity of Plates with Nonuniform Boundary Conditions Ranging from Pinned to Clamped**

Yishai Glam (Technion), Maxim Freydin (Technion)

14:20-14:40 **Development of a Control-Oriented Aeroelastic Model for the mini MUTT UAV**

Izabel Laura Nagy (Budapest University of Technology and Economics), Előd István Király (HUN-REN Institute for Computer Science and Control), Balint Vanek (Hungarian Academy of Sciences), Bela Takarics (HUN-REN Institute)

14:40-15:00 **DYNAMIC RESPONSE OF MANEUVERING AIRCRAFT**

Dor Naftaly (Israeli Air Force), Daniella Raveh (Technion)

15:00-15:20 **Aero-Structural Modeling and Prediction of Transonic Shock-Buffet Loads on an F-16 Wing**

Tzlil Nahom Jidovetski (Israeli Air Force), Daniella Raveh (Technion), Michael Iovnovich (IAF)

15:20-15:40 **Static Aeroelastic Behaviour of Very Flexible Straight and Swept Wings**

Suryapratap Shinde (Technion), Daniella Raveh (Technion)

15:40-16:00 **Advances in Aeroservoelastic Stability Testing Using Parametric Flutter Margins**

Moti Karpel (Technion)

Astrodynamics and Space Systems — Hall E

Chair: Vladimir Martinusi (Technion)

14:00-14:20 **Autonomous Collocation of Geostationary Satellites**

Dor Katz (Technion), Pini Gurfil (Technion)

14:20-14:40 **3D Space Interception**

Shaul Gutman (Technion), Ram Massas (Technion)

14:40-15:00 **Optimal trajectories near the sun in General Relativistic setting**

Tomer Fine (The Technion), Vladimir Martinusi (Technion)

15:00-15:20 **Matrix Formulation of Pseudo-Riemannian Geometry**

Vladimir Martinusi (Technion), Iris Kanter (Technion)

15:20-15:40 **Extending Hamiltonian Normalization Toward Control of Large Aperture Satellite Formations**

Ilay Lazarovich (Technion), Vladimir Martinusi (Technion)

Guidance, Navigation, and Control II — Hall A

Chair: Oded Golan (Technion)

16:20-16:40 **Achieving Optimal Performance by AI**

Joseph Z. Ben-Asher (Technion)

16:40-17:00 **WIF-Based Interacting Multiple Model Algorithm**

Daniel Sigalov (Rafael), Aharon Gal (Rafael)

17:00-17:20 **Single-Decision-Time Optimization for Cooperative Shoot-Shoot-Look Engagements**

Kirill Reznik (Technion), Gleb Merkulov (Technion), Tal Shima (Technion)

17:20-17:40 **Optimal Relative Terminal Angle Guidance for Accelerating Exo-atmospheric Pursuers**

Dekel Fishler (Technion), Tal Shima (Technion)

17:40-18:00 **Nonlinear Control for an Air-Breathing Hypersonic Vehicle with Angle of Attack Constraints**

Omer Wexler (Technion), Moshe Idan (Technion)

18:00-18:20 **Multi-Frame Vision-Based Satellite Attitude Estimation**

Dmitriev Arsenii (Technion), Oded Golan (Technion), Vitaly Shaferman (Technion), Daniel Choukroun (Ben-Gurion University of the Negev)

Aerodynamics, Fluid Dynamics, and Aeroacoustics II — Hall B

16:20-16:40 **Closed-Loop Optimization and Analysis of Deployable Vortex Generators on a NACA 2412 Airfoil**

Leah Ben-Tzur (University of Toronto), Alex Liberzon (Tel Aviv University)

16:40-17:00 **Ultra-Low-Cost Ludwieg Tube Wind Tunnel**

Kostiantyn Kuzmenko (Technion), David Greenblatt (Technion)

17:00-17:20 **Calculation of dynamic stability coefficients using Ansys Fluent**

Dvir Mendler (Ansys)

17:20-17:40 **A Computational Study of Aero-Optical Distortions Due to Rotorcraft Wakes**

Shimon Julius (Elbit), Ori Haber (Elbit)

17:40-18:00 **Dielectric Barrier Discharge Plasma Actuators for Hypersonic Boundary Layer Control**

Nadav Friedman (Technion), Kostiantyn Kuzmenko (Technion), David Greenblatt (Technion)

18:00-18:20 **Morphological effects of microfluidic sheet sprays on local heat transfer enhancement**

Alexandros Peteinaris (Technion), Alexandros Terzis (Technion)

Fluid Mechanics, Flow Control, Turbulence and Transition — Hall C

Chair: Vassilis Theofilis (Technion)

16:20-16:40 **Bio-Inspired Flow Control on a Finite Wing during Various Dynamic Motions**

Alok Bose (Rensselaer Polytechnic Institute), Kieran Schuler (Rensselaer Polytechnic Institute), Miki Amitay (RPI)

16:40-17:00 **Global Stability analysis of Cone-Slice-Ramp in Mach 6 flow**

Vojtech Pezlar (Technion), Vassilis Theofilis (Technion)

17:00-17:20 **Sequencing and analysing linear modal instability mechanisms on the HIFiRE-1 vehicle at Mach 6 cruise flight**

Gilad Raz (Technion), Vassilis Theofilis (Technion), Vojtech Pezlar (Technion)

17:20-17:40 **A summary of linear instability phenomena potentially driving laminar flow to transition to turbulence on the surface of waveriders in high-altitude cruise flight**

Vojtech Pezlar (Technion), Angelos Klothakis (Technical University of Crete), Ioannis Nikolos (Technical University of Crete), Vassilis Theofilis (Technion)

17:40-18:00 **Kinetic linear stability theory in the continuum limit**

Yuval Rovinsky (Technion), Vassilis Theofilis (Technion)

18:00-18:20 **Induced Transition to Turbulence over a Two-Dimensional Wedge at Hypersonic Speeds**

Vamsi Krishna Talluri (Technion), Jacob Cohen (Technion), Soumya Ranjan Nanda (Technion)

18:20-18:40 **Radial flow cavitation between two overlying plates with varying gap for water and dodecane liquids**

Samruddhi Salunke (Student), Igal Gluzman (Technion)

Combustion and Reactive Flows — Hall D

Chair: Alon Gany (Technion)

16:20-16:40 **Investigation of Double Structure Cellular Detonations with Two-Step Chemical Kinetics**

Yotam Erel (Tel Aviv University), Yoram Kozak (Tel Aviv University), Daniel Jalontzki (Tel Aviv University), Moran Ezra (Tel Aviv University), Oren Peles (Tel-Aviv University)

16:40-17:00 **Flame Thickening in Binary Spray Diffusion Flames**

Gershon Katz (Technion), J. Barry Greenberg (Technion)

17:00-17:20 **Hypergolic ignition of sodium borohydride-polyethylene fuel under hydrogen peroxide sprays**

Saar Levi (Technion)

17:20-17:40 **Low Regression Rate Limits of HTPB Based Fuels in Solid Fuel Ramjets**

Ethan Loskove (Technion), Rudy Kaner (Technion), Inbal Aped (Technion), Dan Michaels (Technion)

17:40-18:00 **Enhancing Solid Propellant Burning Rates Using Expandable Graphite Additives under High-Pressure Conditions**

Noa Hanina (Technion), Alon Gany (Technion)

18:00-18:20 **Static Firing testing of a Solid Fuel Ramjet Projectile**

Itamar Levitan (Technion), Alon Gany (Technion)

18:20-18:40 **Micro Gas Turbine Conversion from Turbojet to Variable-Bypass Geared Turbofan: Mechanical Design and Preliminary Experiments**

Pavel Kolos (Technion), Michael Palman (Technion), Nikita Kositskii (Technion), Alexander Rachman (Technion), Ron Miezner (Technion), Beni Cukurel (Technion), Valeria Andreoli (Purdue), Guillermo Paniagua (Zucrow Laboratories, Purdue)

Computational Fluid Dynamics, Meshing and Visualization Hall E

Chair: Yuval Levy (Israeli CFD Center)

16:20-16:40 **Rapid simulation for high-speed external flows using Ansys Discovery**

Dvir Mendler (Ansys)

16:40-17:00 **Numerical Framework for Flash Boiling Predictions Under Rapid Depressurization Conditions**

Omry Magen (Tel Aviv University), Yoram Kozak (Tel Aviv University), Nilojendu Banerjee (University of Pavia), Marco Marengo (University of Pavia), Tali Bar-Kohany (Tel Aviv University)

17:00-17:20 **Transonic Shock Buffet LBM/VLES Computations of the ONERA OAT15A Airfoil and JAXA CRM**

Hadar Ben-Gida (Israeli Air Force), Rafael Vieira (Dassault Systems)

17:20-17:40 **Toward Spray Combustion Simulation Capabilities: A Multi-Phase Multi-Fluid Approach**

Sahar Shpitz (ISCFDC), Yuval Levy (Israeli CFD Center), Yuval Dagan (Technion)