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
9:30-13:00		
9:30-9:40	**Welcoming Address:** Eytan Eshel BG (res.), Chair, IACAS-2026	Hall A
9:40-10:30	**Keynote Speaker:** Boaz Levy, Chairman of the Board, Israel Aerospace Industries (IAI)	
10:30-11:30	**Plenary Lecture I:** Prof. Meir Ariel, Tel Aviv University	
Coffee Break 11:30-12:00		
12:00-13:00	**Plenary Lecture II:** Prof. Michael Elad, The Technion	
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 16:00-16:20		
Parallel Sessions 16:20-18:40		
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: Eytan Eshel BG (res.), Chair, Organizing Committee IACAS 2026
Executive VP for Technology, Research, Development & Innovation, IAI

Mr. Boaz Levy, Chairman of the Board, 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: 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).

Plenary Lecture II — Hall A

Chair: Prof. Gil Iosilevskii, Dean Aerospace Engineering, The Technion

Pro. Michael Elad, The Technion

The AI revolution(s): A Technological & Scientific Perspective

This lecture explores the evolution of Artificial Intelligence, from the birth of the Perceptron in 1957 to the modern era of Generative AI. We analyze the core engineering tools and machine-learning algorithms that drive these breakthroughs, specifically examining how massive compute power and large datasets have transformed fields like medicine, robotics, and basic research. The presentation details the mechanics of the Deep Learning revolution and the recent rise of Large Language Models (LLMs) and Diffusion processes. By providing a scientific interpretation of these milestones, the lecture highlights how AI has transitioned from performing specific tasks to offering unprecedented creative and analytical capabilities that approach Artificial General Intelligence (AGI).

Brief Bio:
Prof. Michael Elad holds a B.Sc. (1986), M.Sc. (1988) and D.Sc. (1997) in Electrical Engineering from the Technion in Israel. Since 2003 he holds a faculty position in the Computer-Science department at the Technion. Prof. Elad works in the fields of signal and image processing and machine learning, specializing in particular on inverse problems, sparse representations, deep learning and generative AI. He has authored hundreds of publications in leading venues, many of which have led to exceptional impact. Michael Elad received numerous teaching and research awards and grants, including the Weizmann award in 2021 (for contributions in sparse modeling), and the Rothschild award for exceptional scientific achievements in Engineering in 2024. Michael is an IEEE Fellow since 2012, and a SIAM Fellow since 2018. In 2024 he was elected as a member of the Israel Academy of Sciences and Humanities.

Guidance, Navigation, and Control 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: David Yanuka (Technion)

14:00-14:20 **Morphological effects of microfluidic sheet sprays on local heat transfer enhancement**

Alexandros Peteinaris (Technion), Alexandros Terzis (Technion)

14:20-14:40 **Simulation of the Technion Arc-Plasma Heated Wind Tunnel Using COMSOL**

Jonathan Shevah (Technion), David Yanuka (Technion)

14:40-15:00 **Linear stability theory revisited using the BGK approximation of the Boltzmann equation**

Mor Aharoni (Technion), Vassilis Theofilis (Technion)

15:00-15:20 **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)

Aerospace Design, Manufacturing, and Maintenance — Hall C

Chair: Yuval Freed (IAI)

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

Chair: David Greenblatt (Technion)

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)

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

Chair: Vojtech Pezlar (Technion)

16:20-16:40 **Kinetic linear stability theory in the continuum limit**

Yuval Rovinsky (Technion), Vassilis Theofilis (Technion)

16:40-17:00 **Sequencing and analyzing linear modal instability mechanisms on the HIFiRE-1 vehicle at Mach 6 cruise flight**

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

17:00-17:20 **Global Stability analysis of Cone-Slice-Ramp in Mach 6 flow**

Vojtech Pezlar (Technion), Vassilis Theofilis (Technion)

17:20-17:40 **Radial flow cavitation between two overlying plates with varying gap for water and dodecane liquids**

Samruddhi Salunke (Student), Igal Gluzman (Technion)

17:40-18:00 **Induced Transition to Turbulence over a Two-Dimensional Wedge at Hypersonic Speeds**

Vamsi Krishna Talluri (Technion), Jacob Cohen (Technion), Raj Kiran Reddy M. (IIT Hyderabad, India), S.K. Karthick (IIT Hyderabad, India), Soumya Ranjan Nanda (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 **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)

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)

Computational Fluid Dynamics, Meshing and Visualization — Hall E

Chair: Yuval Levy (Israeli CFD Center)

16:20-16:40 **Hybrid RANS/LES Turbulence Modeling on Unstructured Grids**

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

16:40-17:00 **Rapid simulation for high-speed external flows using Ansys Discovery**

Dvir Mendler (Ansys)

17:00-17:20 **Toward Spray Combustion Simulation Capabilities: A Multi-Phase Multi-Fluid Approach**

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

17:20-17:40 **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)