Registration form

Name:
Affiliation:
Address:
E-mail:
Phone:
Supervisor (for students):

Registration rates

Regular:
- ○ early (until April 21, 2025) — ILS 530
- ○ late (after April 21, 2025) — ILS 590

Student (full-time graduate students only):
- ○ early (until April 21, 2025) — ILS 280
- ○ late (after April 21, 2025) — ILS 330

Method of payment

- ○ Wire transfer, bank requisites:
  - beneficiary: איגוד ישראלי לבקרה אוטומטית
  - bank: Leumi (10)
  - branch: 705
  - account: 13186472
- ○ Charge to institutional account
- ○ On-site payment (cash or checks only)

Filled registration forms are to be e-mailed to

mira.aran.iaac@gmail.com

with a proof of transfer, if applicable

טופס הרשמה

שם:
מקום עבודה:
כתובת:
דוא"ל:
טלפון:
מנחה (עבור סטודנטים):

דמי הרשמה

רישום מלא:
- ○ מוקדם (עד 21 באפריל 2025) — ₪530
- ○ מאוחר (לאחר 21 באפריל 2025) — ₪590

רישום סטודנט (סטו' לתארים מתקדמים בזמן מלא בלבד):
- ○ מוקדם (עד 21 באפריל 2025) — ₪280
- ○ מאוחר (לאחר 21 באפריל 2025) — ₪330

אמצעי תשלום

- ○ העברה בנקאית, פרטי הבנק:
  - מוטב: איגוד ישראלי לבקרה אוטומטית
  - בנק: לאומי (10)
  - סניף: 705
  - חשבון: 13186472
- ○ לחיוב תקציב מוסדי שמספרו
- ○ תשלום במקום (המחאה או מזומן בלבד)

את הטופס יש לשלוח לכתובת הדוא"ל

mira.aran.iaac@gmail.com

עם אישור העברה, אם רלוונטי

איגוד ישראלי לבקרה אוטומטית

National Member Organization of IFAC and IAIN

Invitation to

2025 IAAC Control Conference

—

IAAC^3

to be held in **Daniel Hotel**, Herzliya
on Monday, April 28, 2025 (Nisan 30, 5785)

Organizers: **Shai Arogeti** (BGU)
Harel Kraus (Elbit Systems LTD)
Sissi Lachmi (Applied Materials)

We are grateful to the organizations below, whose support makes holding IAAC events possible

— Applied Materials Israel Ltd. —
— Cielo Inertial Solutions Ltd. —
— Elbit Systems Ltd. —
— RAFAEL—Advanced Defense Systems Ltd. —

Greetings ברכות

We are pleased to invite you to the IAAC Control Conference, IAAC[3]. This second, and the largest, event in the series will be held at the Daniel Herzliya Hotel and will feature a diverse range of theoretical and applied topics in control and related fields. It offers a valuable opportunity for meaningful dialogue between academy and industry.

The conference program features a wide range of presentations by leading researchers and practitioners, providing a window into the dynamic advancements in this field in Israel. Oral and interactive sessions, with 40 exciting presentations, are devoted to both long-established subjects, such as the analysis of linear and nonlinear systems, robust and adaptive control, system identification and optimization, and more recent developments, such as multi-agent systems and learning. Application areas range from motion control to autonomous system and robotics. In recent years, machine learning has played an increasingly significant role in engineering, a trend that is also shaping the field of control. Conference attendees will have the opportunity to explore this topic in a dedicated session. We also hope that interactive poster session—held twice, in the morning and afternoon—will encourage active participation and lively discussions on the presented topics.

We are looking forward to seeing you in Herzliya,

Shai Arogeti (BGU) IAAC[3] Organizers
Harel Kraus (Elbit Systems LTD)
Sissi Lachmi (Applied Materials)

Program-at-a-Glance התכנית במבט על

Hall	Poseidon	Aphrodite
08:30–09:15	Gathering (Venus hall)	
09:00–09:15	Welcome, Greetings, Orientation (Poseidon hall)	
09:15–10:15	Linear and Nonlinear Systems	——
10:15–10:30	Coffee / tea break (Venus hall)	
10:30–11:00	Interactive Session (Venus hall)	
11:00–12:40	Robust Control	Machine Learning in Applications
12:40–13:50	Lunch break	
13:50–15:10	Stability, Identification, Optimization	Autonomous Systems and Robotics
15:10–15:25	Coffee / tea break (Venus hall)	
15:25–15:55	Interactive Session (Venus hall)	
15:55–17:15	Multi-Agent and System Interaction	Applied Practices in Control

Presentations in oral sessions

מושבי הרצאות

09:15–10:15	**Linear and Nonlinear Systems**
9:15–9:35	*On the Gain of Entrainment in Contractive Control Systems* Michael Margaliot (TAU)
9:35–9:55	*To Cascade Feedback Loops, or Not?* Eduard Eitelberg (NOY Business, SouthAfrica)
9:55–10:15	*Safety in Dynamical System Using Control Barrier Function* Qadeer Ahmed (Ohio State U)
11:00–12:40	**Robust Control**
11:00–11:20	*Gramian-Based Analysis of Parametric Uncertainties* Olga Slita (Technion)
11:20–11:40	*Utilization of Noise for the Control of a Class of Non-Linear Systems* Adrian-Mihail Stoica (Politehnica U Bucharest), Isaac Yaesh (Elbit Systems)
11:40–12:00	*Extremum Seeking of Static Maps in the Presence of Delays* Adam Jbara, Emilia Fridman (TAU)
12:00–12:20	*A Novel Approach for Analysing the Stability of Shear Flows and Boundary Layers via Concepts from the Fields of Robust Control Theory* Ofek Frank-Shafir, Igal Gluzman (Technion)
12:20–12:40	*QFT-Based Controller Design Tools: Properties, Capabilities, and Examples* Oded Yaniv (BugProof Ltd)
11:00–12:40	**Machine Learning in Applications**
11:00–11:20	*Revealing Principles of Autonomous Thermal Soaring in Windy Conditions Using Vulture-Inspired Deep Reinforcement-Learning* Yoav Flato, Roi Harel, Aviv Tamar, Ran Nathan, Tsevi Beatus (HUJI)
11:20–11:40	*Cooperative Dynamic Weapon-Target Assignment in a Multiagent Engagement* Gleb Merkulov, Eran Iceland, Shay Michaeli, Oren Gal, Ariel Barel, Tal Shima (Technion)
11:40–12:00	*Deep Learning Approach to Flapping Wing Flight Control: Leveraging Reinforcement and Imitation Learning from Fruit Flies* Sagiv Yaari, Roni Maya, Noam Lerner, Tzevi Beatus (HUJI)
12:00–12:20	*New Optimal Control Method for Machine Learning Estimators* Elinor Ginzburg-Ganz, Sarah Keren, Yoash Levron (Technion)
12:20–12:40	*From Semantic Understanding to Geometric Features: Using Foundation Models for Novel Robotic Tasks* Nizan Mashall, Erez Karpas, Miriam Zacksenhouse (Technion)
13:50–15:10	**Stability, Identification, Optimization**
13:50–14:10	*Tracking Error Reduction using Model-Based Recursive Input Shaping* Lichtsinder Arkady (RAFAEL)
14:10–14:30	*Quantitative Stability of Autonomous Linear Systems* Izchak Lewkowicz (BGU)
14:30–14:50	*Estimation of Multi-Sinusoidal Signal Parameters Using GPEBO Approach* Nikolay Nikolaev (Technion), Olga Oskina (ITMO)
14:50–15:10	*Tractable Downfall of Basis Pursuit in Structured Sparse Optimization* Maya Marmary, Christian Grussler (Technion)
13:50–15:10	**Autonomous Systems and Robotics**
13:50–14:10	*Probabilistic Rare-Event Verification for Temporal Logic Robotic Tasks* Guy Scher (RAFAEL), Sadra Sadraddini (Dexai Robotics), Hadas Kress-Gazit (Cornell U)
14:10–14:30	*Analysis and Experiments of the Dissipative Twistcar—Direction Reversal and Asymptotic Approximations* Rom Levy, Ari Dantus and Yizhar Or (Technion)
14:30–14:50	*Methods for Line-of-Sight Control of a Spherical Parallel Manipulator* Aviram Yanover, Daniel Choukroun (BGU)
14:50–15:10	*Autonomous Vehicle Digital Twin Based on Fuzzy Unscented Transform* Anna Clarke (Mobileye)
15:55–17:15	**Multi-Agent and System Interaction**
15:55–16:15	*A Passivity Analysis for Nonlinear Consensus* Fengyu Yue, Daniel Żelazo (Technion)
16:15–16:35	*Leader Identification in Semi-Autonomous Consensus Protocols* Evyatar Matmon, Daniel Żelazo (Technion)
16:35–16:55	*On Filtered Consensus Protocols* Gal Barkai, Leonid Mirkin, Daniel Żelazo (Technion)
16:55–17:15	*Enhancing Human-Robot Synchronization and Interaction through Integrated Control Systems* Ben Navon, Anna Clarke, Avi Parush (Technion)
15:55–17:15	**Applied Practices in Control**
15:55–16:15	*A DC-Motor Drive Without Integrators in the Current Loops for a Laboratory Two-Mass System Model—An Experimental Study* David Yehuda, Per-Olof Gutman (Applied Materials Israel)
16:15–16:35	*Adaptive Current Control Method by Online Estimation the Motor Coil's Resistance Using EKF and UKF* Yaron Zimmerman (Spectrum engineering Ltd)
16:35–16:55	*A Parallel Analog and Digital Adaptive Feedforward Active Noise Controller* Yoav Vered (ZenAcoustics Solutions)
16:55–17:15	*A Simple Stabilization Approach for Rockets in Boost Phase* Joseph Z. Ben-Asher (Technion)

Presentations in interactive sessions

מושבי מצגות אינטראקטיביות

Booth #1	*Reduced-Order Envelope Model of Resonant Inverter Feeding a Time-Varying Series RLC Load for Pulsed Power Applications* Ohad Akler, Alon Kuperman (BGU)
Booth #2	*RAM-Air Parachute Real Time Piloting Simulator* Tamar Alperin and Anna Clarke (Technion)
Booth #3	*Enhancing Battery Management in AEV* Lapid Bar David (Technion)
Booth #4	*Shape-Underactuated Systems Modeling and Control* Zvi Chapnik, Yizhar Or (Technion), Shai Revzen (U Michigan)
Booth #5	*MARVEL: Modern AI Research Vessel for Experimental Learning* Samuel Cohen-Salmon, Itzik Klein (Haifa U)
Booth #6	*Interpolating Control of Motion Affected by Pre-Sliding Friction* Per-Olof Gutman, David Yehuda (Applied Materials Israel)
Booth #7	*C4DYNAMICS—Python Framework for Dynamic Systems* Ziv Meri (C4Dynamics)
Booth #8	*Semantic Segmentation as the Detector for Search Problems: Modeling and Analysis* Barak Pinkovich, Ehud Rivlin, Héctor P. Rotstein (Technion)
Booth #9	*Automated Optical Bench Static Balancing Procedure Using the Discrete Linear Programming Algorithm* Ilia Rapaport (Elbit Systems)
Booth #10	*Coupled Oscillator Models for Multilegged Robots* Chen Reichsbouscher (Technion), Shai Revzen (U Michigan) and Yizhar Or (Technion)
Booth #11	*Advanced Control Strategies for Modern Systems* Amit Weinreb (Systematics)

speaker names are underlined

שמות המרצים מודגשים בקו