FACULTY OF ENGINEERING

ANNUAL REPORT 2025

The Iby and Aladar Fleischman
Faculty of Engineering
Tel Aviv University

THE FACULTY OF ENGINEERING
EXPANDING
the BOUNDARIES
of POSSIBILITY

CONTENTS

1. 2025 Summary

As other eventful year closes, we pause to look back on the challenges and accomplishments that have shaped our path. In spite of both global and local uncertainties, including a year that posed numerous difficulties for Israeli society and its economy, the dedication of our academic, teaching and administrative staff, the energy of our students, and the loyal support of our partners have allowed the Faculty of Engineering to move forward in excellence, innovation, and meaningful impact. We are delighted to present key moments from the past year, highlighting our research advances, educational initiatives, and expanding collaborations with industry and international partners.

The Faculty of Engineering at Tel Aviv University continues to pursue its mission of generating new knowledge through groundbreaking basic and applied research, while training the next generation of creative engineers, visionary scientists, and technology leaders. Our faculty remains deeply committed to fostering talent from all sectors of Israeli society and to sustaining Israel's global leadership in science and technology. Through innovative research with real-world relevance, we strive to contribute to the economic, industrial, and societal progress of Israel and the world.

For decades, the Fleischman Faculty of Engineering has maintained a deep and mutually reinforcing partnership with industry. Collaboration spans every stage of the innovation pipeline, from early scientific discovery to technology maturation, prototyping, and deployment, creating a continuous loop of knowledge transfer, talent development, and economic impact. Mechanisms include sponsored research, multi-party consortia, industry-mentored capstone projects, testing services, and translational pathways through technology transfer. These activities position the Faculty as a national hub where complex engineering challenges are converted into scalable solutions.

This year, we continued our final project program where projects are conducted jointly with industry partners, reaching some 80 industry-led projects out of a total of 400. These collaborations not only strengthen the practical training of our students, but also serve as a pipeline, connecting academia and industry and ultimately transforming academic activity into industrial and societal impact. These projects are supervised by engineers from leading technology

companies, providing students with direct exposure to real-world challenges and professional mentorship.

Our vision is to remain Israel's most influential engineering faculty, recognized for excellence in multidisciplinary research, and for nurturing engineers who lead with creativity, integrity, and impact. By aligning our activities with national priorities in semiconductors and VLSI, AI and data science, photonics and quantum, robotics and autonomous systems, advanced materials, biomedical and environmental engineering, the Faculty continues to sustain Israel's technological edge.

2. Industry Engagement

Our Industry Engagement Program helps strengthen cooperation with a wide range of companies from all industrial sectors in Israel, shaping the relevance of our research, and positioning graduates of the Faculty of Engineering in key and highly influential roles. The program emphasizes industry-supported collaborative research projects, company-sponsored specialized training courses, support for teaching and research laboratories, and additional initiatives. We deeply appreciate the continued collaboration with our dedicated partners. Below is a brief overview of the key activities carried out over the past year.

2.1 Strategic Collaboration with IAI

In May 2025, we launched the first in a series of three meetings with top engineers from Israel Aerospace Industries (IAI) at the Faculty of Engineering. IAI is a global leader in aerospace innovation, and we are honored to collaborate with its leading experts to address advanced technological challenges and to identify new opportunities for joint research and development. The inaugural meeting centered on Mechanics and Power Systems and highlighted the strengths of our Mechanical Engineering community. The three events included concise talks presented by faculty researchers alongside short contributions from IAI specialists, underscoring the close connection between academic innovation and practical engineering excellence. This series aims to strengthen ties between the Faculty and one of the most technologically advanced players in Israel's defense and aerospace landscape. Following sessions focused on antennas, RF systems, and metamaterials, featuring compelling presentations from Profs. Pavel Ginzburg, Yair Shokef, Ady Arie, Ehud Heyman, Rafi Kastner, Yarden Mazor, and the outstanding team from Israel Aerospace Industries. Following these meetings, three projects are now set to commence in the near future.

2.2 VLSI Final Project with Intel and Apple

The School of Electrical and Computer Engineering is running a fourth-year undergraduate final project program in VLSI design, where talented mentees have the unique opportunity to collaborate directly with industry experts. Over weekly sessions, students develop innovative chip designs, leading up to a final presentation, and for the top projects, a path toward tape-out. The program is designed to offer a real-world, hands-on experience that strengthens both technical

and professional skills, preparing students to become the next generation of VLSI designers. We are grateful to Intel and Apple for their ongoing support and for the mentors who help lead this initiative. Read More: ***Link***.

2.3 New National Projects

Seven researchers from the faculty, Prof. Rami Haj-Ali, Prof. Gilad Yossifon, Dr. Ofer Kfir, Prof. Ines Zucker, Prof. Meital Zilberman, Prof. Vered Blass and Dr. Yoram Kozak, have been chosen to participate in the Israel Innovation Authority's four new national consortia. The IIA has launched four major applied-research consortia in the fields of advanced materials, semiconductors, environmental technologies and superior performance concrete: the NDT consortium, which will develop next-generation non-destructive testing technologies for the aerospace, automotive, and defense sectors; the DiamondSEMI IL consortium, which will promote diamond-based semiconductor devices and advanced thermal management solutions in collaboration with leading companies such as NVIDIA, Elbit, Lusix, Diamic, and Galal Quantum Transistors; the Green Soil consortium, which is dedicated to cutting-edge biological technologies for soil and groundwater remediation, a fast-growing global market with significant environmental implications; and the RSTPCS consortium, which is dedicated to developing Reinforced Superior Tailored Performance Concrete Systems and technologies for the construction industry with leading companies such as ICL, Shafir and Ackerstein. ***Link***

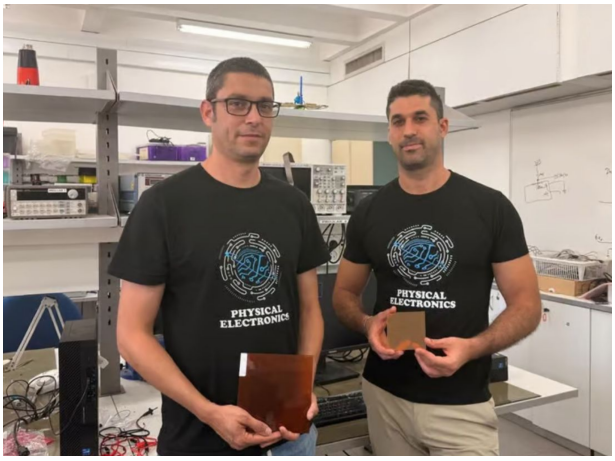
FUTUREWISE, established in 2025, is a national flagship research initiative supported by Israel's Planning and Budgetary Commission (VATAT) that aims to convert municipal and organic waste into sustainable fuels for aviation, marine, and land transportation. Coordinated by Tel Aviv University in partnership with Ariel University, Ben-Gurion University of the Negev, Emek Yezreel Academic College, Shenkar College, and Meir Medical Center, the initiative integrates advanced waste-to-fuel conversion technologies with environmental, economic, and health analyses to promote a circular, low-emission energy future. FUTUREWISE is driven by a multidisciplinary consortium spanning chemistry, engineering, sustainability, policy, and health, and actively seeks additional academic, governmental, and industrial partners to expand its impact and accelerate translation to real-world energy solutions. ***Link***

2.4 Joint Research with Rafael

We are pleased to showcase a new study that exemplifies a strong and productive partnership between academia and industry. Led by Dr. Yarden Mazor, the research introduces an innovative metasurface built from unit cells, shaped as toroidal knots—wire loops, defined on the surface of an imaginary torus and winding around it multiple times. These unit cells are organized in a periodic, two-dimensional array with dimensions smaller than the wavelength. Read the ynet article (Hebrew) about the project: ***Link***

2.5 Alumni Engagement and Industry Collaboration

In 2025, the Faculty's Mentoring Program reached a significant milestone, with over 100 mentors and mentees participating in the most recent cohort. This achievement reflects the continued strengthening of ties between the Faculty, its alumni community, and industry partners. Throughout the year, the Faculty also organized professional site visits to leading technology companies, including Marvell and NVIDIA, providing students and alumni with direct exposure to industry



This distinctive geometry developed by Dr.Yarden Mazor and Nadav Goshen allows for highly accurate control of wave propagation, opening the door to potential applications in active cloaking, advanced sensing, and next-generation communication technologies.

innovation and best practices. These initiatives are part of an ongoing effort to expand alumni engagement, foster meaningful connections between academia and industry, and create impactful professional opportunities for our community.

Figure 2.1: Mentoring event 2025

2.6 Spotlight Day - Apple

Electrical and Computer Engineering Students kicked off the Semester with an Inspiring Spotlight Day hosted by Apple. The event featured a fascinating lecture by Zach Zemer, a senior leader at Apple, who shared valuable SOC Engineering Insights. A broad team of Apple engineers and recruiters also joined the event, communicating with students about exploring career opportunities at the company.

Figure 2.2: Spotlight Day - Apple

2.7 Spotlight Day - NVIDIA

In early December, we hosted a successful Spotlight Day by NVIDIA. We opened the event with informal mingling, followed by an engaging lecture on Hardware System Design delivered by Kobi Levy, VP Hardware Networking. The day concluded with a panel featuring NVIDIA's engineers, who addressed a wide range of thoughtful and relevant questions. It was an enriching, informative, and inspiring event.

2.8 Hands-on Workshop - Intel

This year, we were also delighted to host an exciting hands-on workshop led by Guy Tamir, a technology evangelist at Intel, showcasing Intel's groundbreaking AI-PC technologies. This engaging event brought together 75 students eager to explore the latest innovations in computing. A special highlight of the workshop was the distribution of two cutting-edge laptops powered by Intel's newest processors, a glimpse into the future of technology. We were also delighted to welcome Assaf Gurevitz, a principal engineer, and Estee Gazit from Intel. This successful event is another testament to the incredible AI research and education at Tel Aviv University's Faculty of Engineering, made possible by leaders such as Prof. Raja Giryes, Prof. Ran Gilad-Bachrach, Prof. Meir Feder, and many others.

2.9 Industry Engagement - Elbit Systems

We recently welcomed a delegation of senior executives from Elbit Systems. The visit, organized by Ramot, centered on exploring collaborations in advanced technologies. Opening remarks were delivered by Yehoshua (Shuki) Yehuda, EVP Strategy, Innovation and CTO at Elbit.

Figure 2.3: Spotlight Day with Nvidia

2.10 2025 ORSIS Conference

The 2025 ORSIS Conference, held May 5–6 at Tel Aviv University, successfully brought together academic and industry participants to explore the latest advances in Operations Research. Organized by Prof. Noam Shamir (Management), Dr. Mor Kaspi (IISE) and Dr. Royi Jacobovic (Mathematics). The two-day event featured 25 parallel sessions covering topics from optimization to supply chain management, anchored by keynote lectures from Prof. Noam Nisan and Prof. Andrea Lodi. In addition to a timely panel discussion on "OR in the age of AI," the conference celebrated community excellence by presenting the Uriel Rothblum Award and Abraham Mehrez Prize, concluding with a social event designed to foster future collaboration.

3. Research Highlights

The scope of research carried out at the Faculty of Engineering is extensive and diverse, spanning a wide range of disciplines and application areas. Our research portfolio covers renewable energy, water purification, nanoscience and nanotechnology, brain–machine interfaces, micromechanics and microfluidics, smart materials engineering, 3D printing, and defence-related technologies (such as tunnel detection, aircraft missile defense, and structural protection for UAVs), among many other subjects. Below, we highlight a selection of studies that have attracted public attention and were featured in media headlines. These examples represent only a small portion of our ongoing work. Further information about additional research projects, publications and initiatives can be found on our website and other online platforms.

3.1 Egg Drop Challenge

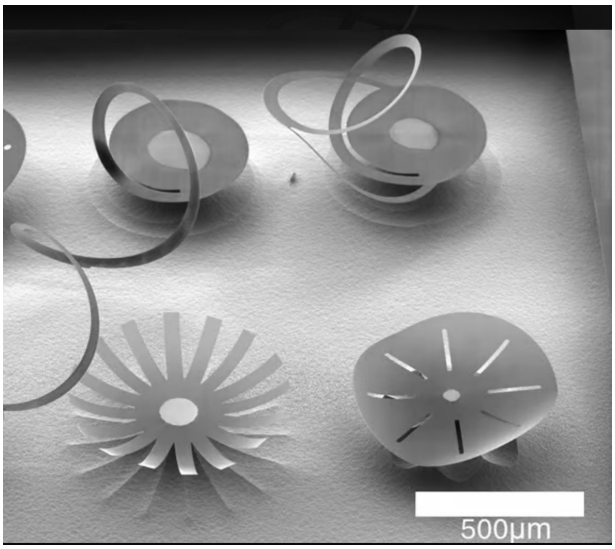
A new study from the School of Mechanical Engineering, lead by Prof. Rami Haj-Ali discovered that eggs are less likely to crack when dropped on their side than when dropped vertically. ***Link***

The research, published in Communications Physics, used controlled trials simulating the "egg drop challenge", a common classroom science experiment, and discovered that the shell of an egg can better withstand an impact when oriented on its side.

3.2 Photonics Origami

Researchers have developed a groundbreaking laser-assisted method to fold ultra-thin glass sheets, 200 times thinner than a human hair, into transparent 3D micro-photonic structures directly on a chip. Dubbed “Photonics Origami,” this innovation overcomes key limitations of conventional 3D optical printing, enabling light to travel distances of kilometers within the

structures, compared to just centimeters today.



The team successfully fabricated spirals and concave mirrors as thin as 0.5 µm and only a few millimeters long, opening the door to transformative applications such as micro-zoom lenses that could replace multiple smartphone camera modules, and advanced light-based photonics for next-generation computing.

3.3 Optical Metasurfaces

Researchers have developed a generative-AI-based method that revolutionizes the design of optical metasurfaces, ultra-thin components capable of precisely controlling light. What previously required hours or even days of complex computation can now be completed in less than 30 minutes. The study, conducted by doctoral student Liav Chen and researcher Erez Yosef under the supervision of Prof. Raja Giryes, Prof. Dan Raviv, and Prof. Koby Scheuer, all from the School of Electrical and Computer Engineering, demonstrates how AI can dramatically accelerate the design of advanced optical elements, such as beam splitters and polarization filters. This breakthrough paves the way for: (1) Rapid, cost-effective development of custom optical systems for imaging, communications, and sensing. (2) Integration of AI and photonics in next-generation devices, from AR systems to wearable and biomedical sensors. (3) Bridging between simulation and fabrication, enabling faster innovation cycles within academic and industrial settings

3.4 Metallic Knot

Researches from the Faculty of Engineering published a study in Science Advances showing that metallic knot particles can act as building blocks for next-generation meta-surfaces, offering new possibilities in photonics and material engineering. The work shows that toroidal knots enable strong chiral electric–magnetic responses and polarization control, validated through both 3D-printed and PCB-fabricated designs. These findings open new directions for next-generation electromagnetic and optical technologies. See media coverage: ***here***.

The two research papers from the School of Electrical and Computer Engineering, mentioned above, were selected for the prestigious “Optics in 2025” list in the December issue of Optics & Photonics News, a remarkable recognition of the cutting-edge photonics research emerging from our community. Being featured in the OPN December issue is an exceptional acknowledgment, and it reflects the strength, creativity, and impact of our research community. (1) Photonic Origami, pioneered by Prof. Tal Carmon and his team at TAU, is a breakthrough technique that uses laser-induced, surface tension-driven folding to bend ultra-thin glass sheets

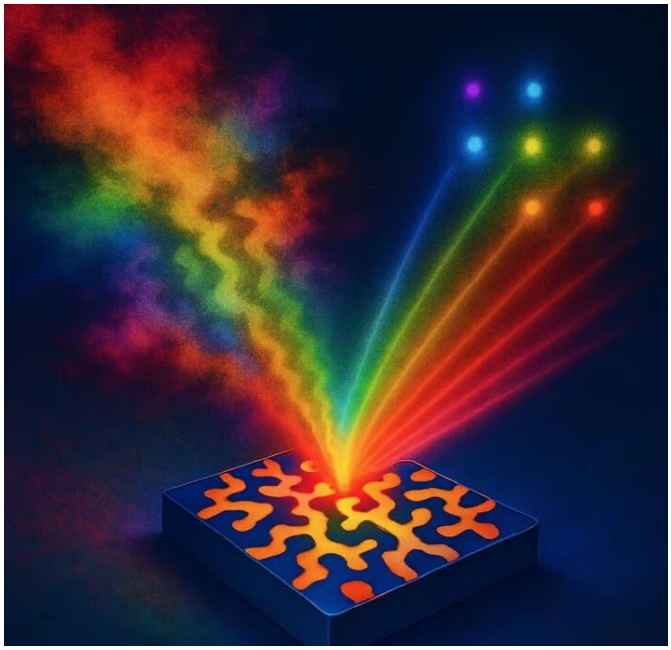


Figure 3.1: Generative AI-based method that revolutionized the design of optical metasurfaces

into precise 3D optical structures, such as helices, mirrors, and high-Q micro-resonators, directly onto a silicon chip. ***Link***. (2) Coherence Engineering in Nonlinear Optics, by Ziheo Fang and Prof. Ady Arie, presents their findings on engineering the coherence of light in a nonlinear second-harmonic generation process. ***Link***

3.5 How Ultra-Orthodox Communities Shape Their Digital Ecosystems

Prof. Eran Toch is leading a collaborative study with researchers from the University of Haifa and George Washington University to explore how Ultra-Orthodox Jewish communities shape their own "technology ecosystems." Funded by a joint NSF-BSF grant, the project investigates how these communities adapt digital tools—such as creating "kosher phones"—to align with strict religious values. Prof. Toch notes that these inventions offer a unique look at how privacy and security can be redefined by community standards rather than just technical limitations.

3.6 Smartwatches as Early-Warning Sensors

A recent research by Prof. Dan Yamin and Prof. Erez Shmueli highlights how everyday smartwatches can be transformed into a powerful early-warning system to prevent the spread of contagious diseases. By studying thousands of people over two years, the researcher found that smartwatches can detect subtle changes in your heart rate and body signals one to three days before you even feel the first symptom of COVID-19, the flu, or strep throat. ***First Study*** In the second study by Prof. Dan Yamin and his collaborators from Stanford, the team used advanced computer modeling to show that if people used these early "digital warnings" to reduce their social contact just a few days sooner, they could drop the infection rate so low that outbreaks would naturally fizzle out. Essentially, the work proves that by catching illnesses at their most infectious stage—before we even know we are sick, we can move from simply managing pandemics to actually preventing them. ***More***

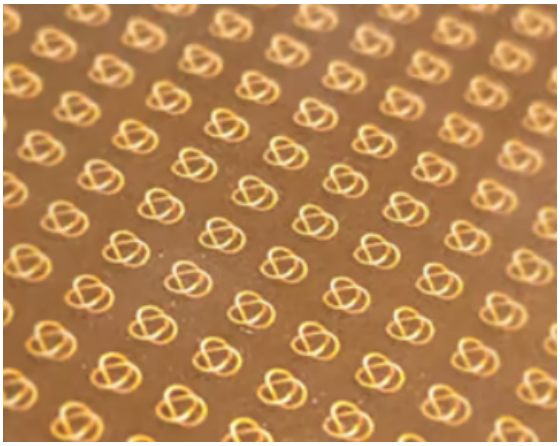


Figure 3.2: Metallic Knot Particles

3.7 PTSD Detection

Research conducted by Prof. Dan Yamin and Prof. Erez Shmueli shows that smartwatches can pick up the immediate physiological “fingerprints” of trauma, such as subtle changes in heart rate, sleep patterns, and physical activity, within the first week after a large-scale traumatic event. To achieve this, they continuously tracked almost 5,000 participants via smartwatches and a dedicated mobile app, collecting real-time data from before and after the events of October 7. This enabled them to detect objective indicators of distress as they appeared and to reveal a strong association between exposure to graphic content on social media and a heightened risk of developing PTSD. This finding is crucial, as early identification of these signals is essential for prompt treatment, which helps prevent short-term distress from solidifying into chronic, lifelong PTSD. By making earlier intervention possible, the researchers can advance a proactive strategy that not only saves individuals from years of suffering, but also substantially reduces the heavy, long-term burden that chronic mental health disorders impose on healthcare systems and society as a whole.***Link Times of Israel***

Figure 3.3: Prof. Dan Yamin

4. Training and Education

The Faculty of Engineering at Tel-Aviv University is the largest and foremost engineering faculty in Israel. Our central goals are to conduct cutting-edge engineering research and to train the next generation of engineers who will drive and shape various industries. Over the years, the Faculty has earned a strong reputation for excellence in research, industry engagement, and teaching.

Today, the Faculty consists of five academic units: The School of Electrical and Computer Engineering, the School of Mechanical Engineering, the School of Industrial and Intelligent Systems Engineering, the School of Biomedical Engineering, and the Department of Materials Science and Engineering. Collectively, these units span the full spectrum of engineering disciplines. The Faculty enrolls approximately 4,700 students, including more than 1,300 graduate students, and this number continues to rise steadily.

As part of their training, students participate in distinctive projects, such as designing and constructing an autonomous boat, a race car, a drone that pollinates agricultural fields, or a mobile incubator for water sampling in remote areas around the globe. These students later become scientists and prominent leaders in advanced industries in Israel and abroad. The Undergraduate Honors Program, the ECE with Entrepreneurship division (BSc) and Space Engineering Division (MSc) offer additional study and research opportunities for outstanding students already during their bachelor's degree and encourage them to continue with graduate studies at the faculty. Students participating in the these programs receive funding covering half of their tuition fees during the first three years of study.

Our graduates are in high demand across all sectors of industry and successfully integrate into a wide range of roles in the private sector, the defence sector, research institutes, and academia. We take pride in the fact that our alumni maintain close ties with the Faculty leadership and continue to support our teaching and research initiatives. At our Faculty, students have the opportunity to study with and work alongside leading academic researchers who direct research teams across numerous disciplines. These fields include cybersecurity, artificial intelligence, intelligent transportation systems, data science, communications, optics, and sensors for the Internet of Things (IoT), applied in domains such as air quality monitoring, healthcare, transportation, and smart cities.

4.1 Electrical and Computer Engineering

Figure 4.1: Prof. Eran Socher, the Head of the School of Electrical Engineering, specializes in integrated circuits (IC) and system design. Prof. Socher is particularly known for his work in millimeter-wave and terahertz technologies, which are critical for next-generation wireless communication systems, including 5G and beyond. His contributions to the field are highly regarded, as they push the boundaries of what is possible with wireless communication and sensor technologies, and have practical implications in both industry and academia. Prof. Socher's work bridges the gap between fundamental research and real-world applications, positioning him as a key figure in the development of future communication technologie.

The School of Electrical and Computer Engineering was established in the early 1970s and has grown into one of the most prominent departments within the faculty. With around 50 faculty members and 1,200 undergraduate students, as well as 600 graduate students, the school is a powerhouse for electrical engineering education and research. The current head of the school is Professor Eran Socher.

4.2 School of Biomedical Engineering

The School of Biomedical Engineering, headed by Prof. Natan T. Shaked, focuses on engineering applications and technological developments for medicine and life sciences, as well as understanding human physiology through engineering and exact sciences. This is a multidisciplinary field that deals with the development of innovative medical methods and devices that will more efficiently diagnose diseases, as well as developing basic scientific and technological tools for biological research, which may lead to important discoveries in biology and physiology. The School contains 16 research labs and more than 400 students, focusing on medical imaging and sensing, biomaterials, biomechanics and signal processing, including big data and AI. The School of Biomedical Engineering at Tel Aviv University is ranked among the top 100 Schools of Biomedical Engineering in the world, and the highest among all Israeli Universities in the Shanghai ranking. Professor Natan T. Shaked is a Full Professor in the School of Biomedical Engineering at Tel Aviv University, Israel, and the head of the School. He also directs a large multidisciplinary research group dealing with biomedical optical interferometric microscopy and nanoscopy. He is well known for his contributions in the field of faculty of engineering | annual

report 19 label-free optical imaging of biological cells, with focus on ultra-rapid sperm imaging and imaging flow cytometry for cancer cell detection and monitoring in liquid biopsies, such as routine blood samples.

4.3 School of Mechanical Engineering

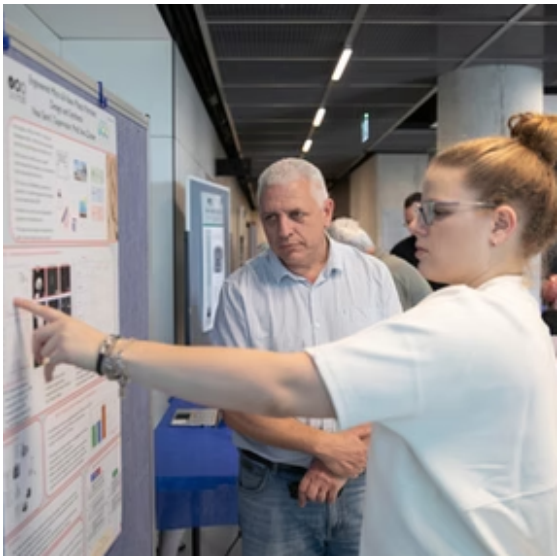


Figure 4.2: Prof. Alex Liberzon (Left), head of the School of Mechanical Engineering. The school offers a robust program, emphasizing both theoretical and applied aspects of mechanical engineering.

The School of Mechanical Engineering was established in 1973, originating from the Department of Mechanics, Materials, and Structures, under the leadership of Professor Maurice Brull and Professor Zvi Hashin, the 2007 Israel Prize laureate. The current head of the school is Professor Alex Liberzon.

4.4 School of Industrial and Intelligent Systems Engineering

Founded in 1971, the Department of Industrial Engineering and Management has revolutionized the study of industrial engineering in Israel. The first head of the School, Professor Danny Zipper, played an essential role in shaping the curriculum and establishing the reputation of the School. The current head of the School is Professor Neta Rabin. In addition to its undergraduate and graduate program, Industrial Engineering and Management, the School recently opened a new Data Science undergraduate program in collaboration with the Faculty of Exact Sciences.

In April 2025, the Department of Industrial Engineering officially became the **School of Industrial and Intelligent Systems Engineering**. The school serves as an international center for research and teaching in optimizing and decision-making, within complex systems that integrate people and advanced technologies. Its excellence stems from groundbreaking research by faculty members combined with high-quality teaching that prepares a new generation of researchers and professionals to lead in industry and academia.

The school offers comprehensive undergraduate, master's, and doctoral programs, blending deep mathematical and statistical foundations with practical engineering training through project-based learning, teamwork, and industry-linked final projects. Its undergraduate programs

Figure 4.3: Prof. Rabin with Students

in Industrial Engineering & Management and Data Science (offered jointly with the Faculty of Exact Sciences) are central to the school's mission. The IE&M program teaches students to design, operate, and improve complex industrial and service systems, balancing technological, managerial, and human-system aspects. The Data Science program equips students with deep knowledge in statistics, machine learning, optimization, and information systems, preparing them to develop and apply data-driven solutions across a wide range of organizations.

Figure 4.4: The School of Industrial and Intelligent Systems Engineering – academic staff and graduate research students at a research-focused day, May 2025.

Central to the teaching program of the School is the CIM Lab – Center for Intelligent Manufacturing, headed by Prof. Irad Ben-Gal, recently transformed to reflect Industry 5.0. The

lab integrates smart technologies, robotics, AI, and advanced communication systems, offering students practical experience in manufacturing and automation. It also hosts interdisciplinary projects, high school outreach, and industry collaborations, such as a smart recycling robot using real-time AI and an innovative robotic arm interface for teaching and experimentation.

4.5 Materials Science and Engineering

The School of Materials Science and Engineering was established in 2013. However, the roots of this field at Tel Aviv University date back to the founding of the Wolfson Center for Materials Research in 1994. The Department collaborates with the faculties of Chemistry and Physics, offering a comprehensive program focused on advanced materials. The current head is Professor Shachar Richter.

4.6 Special Programs and Highlights

Below is a brief overview of some of our distinctive and innovative academic programs, each designed to offer students unique learning opportunities and experiences.

4.6.1 The Control and Autonomous Systems

Figure 4.5: The Control and Autonomous Systems Laboratory

The Control and Autonomous Systems Laboratory at Tel Aviv University is directed by Arkadi Rafalovich and serves as a central educational and experimental facility in the Faculty of Engineering. The laboratory supports two major academic tracks: the Control Laboratory and the Autonomous Systems Laboratory. The Control Laboratory is academically supervised by Professor Michael Margaliot and focuses on rigorous control theory, controller design, analysis, and tuning for a wide range of dynamical systems. The Autonomous Systems Laboratory is academically supervised by Professor Ben-Zion Bobrovsky and emphasizes the development and implementation of autonomous behavior, integrating sensing, decision-making, and control in embedded and robotic platforms. Together, these laboratories provide students with a strong

combination of theoretical foundations and hands-on experience, bridging advanced control theory with practical autonomous system design.

4.6.2 Artificial Intelligence (AI)

AI education is embedded in both research and teaching activities, with a strong emphasis on interdisciplinary collaboration. Central to this effort is the Multidisciplinary Center for AI and Data Science, headed by Prof. Meir Feder, which is dedicated to advancing core AI research while promoting cross-disciplinary projects that apply AI across diverse domains, including healthcare, economics, and psychology. The center also aims to equip students and researchers to take leading roles in shaping Israel's AI landscape, as well as contributing to the global integration of AI and data science in industry. Alongside this research-oriented center, the faculty provides a broad range of AI-focused courses, such as machine learning, deep learning, and AI ethics, primarily offered through the electrical and computer engineering departments. Students gain hands-on experience with cutting-edge AI techniques and computational infrastructures, while emerging technologies like quantum computing are also being examined as part of the ongoing AI transformation.

4.6.3 Automation

The Automation Lab at Tel Aviv University, directed by Arkadi Rafalovich, is central to teaching advanced topics in autonomous systems and control engineering. It is primarily used for two major courses in the Faculty of Engineering: the Advanced Autonomous Systems Lab and the Advanced Control Lab. In this lab, students complete nine structured experiments that cover both the theoretical foundations and hands-on implementation of autonomous systems. They develop and test algorithms in Python and C++ on platforms that include embedded PCs and microcontrollers. The lab's main objective is to train students to build autonomous behavior into systems, from basic control loops to sophisticated solutions that satisfy detailed performance requirements. The Advanced Control Lab, supervised academically by Prof. Yoram Margaliot, focuses on rigorous controller design and tuning for different types of systems. During three-hour lab sessions, students practice configuring and refining control systems so that they accurately track desired positions or velocities, gaining concrete experience with how control theory is applied in practice. Together, these labs exemplify the integration of academic leadership with engineering practice. They play a crucial role in the education of engineering students, providing them with solid theoretical knowledge and substantial practical experience, whilst highlighting Tel Aviv University's dedication to high standards in autonomous systems and control engineering.

4.6.4 VLSI Design

The VLSI (Very Large Scale Integration) discipline is strongly supported through a range of courses and research laboratories, particularly in the School of Electrical Engineering. Coursework related to VLSI typically centers on semiconductor devices, digital systems, and integrated circuit (IC) design, with a strong focus on CMOS (Complementary Metal Oxide-Semiconductor) technologies. The VLSI and High Frequency Integrated Circuits Laboratories, headed by faculty members such as Prof. Eran Socher, play a key role in the training of both undergraduate and graduate students. Research carried out in these labs addresses cutting-edge areas, including millimeter-wave CMOS circuits, high-speed data communication, and THz sensing. Alongside theory-based classes, students gain practical exposure to VLSI design through a variety of instructional laboratories. In these labs, the students work with modern tools and methodologies for IC design and verification, helping them to build the skills needed for careers in the semiconductor and integrated circuit design sectors. This combination of formal coursework and hands-on

laboratory practice ensures that students develop both the theoretical background and applied expertise required in VLSI technology.

4.6.5 Drone Laboratory

The Drone Lab focuses on developing autonomous drones that combine artificial intelligence, computer vision and robotics. The lab is at the forefront of drone innovation, particularly in the areas of navigation and control in complex environments.

4.6.6 Digital Science for High-Tech

This combined degree program integrates software and data studies with a solid mathematical base, designed to provide students with the skills required in the high-tech sector. The program is led by Professor Ran Bachrach Gilad.

4.6.7 Master-Track

A fast-track master's degree program for holders of undergraduate degrees.

4.6.8 Environmental Engineering

Led by Professor Hadas Mamane, this graduate program focuses on sustainable solutions for environmental challenges.

4.6.9 Micro-Degree Program

Launched in 2021, this accelerated program targets bachelor's degree holders, providing them with a condensed curriculum focused on emerging technologies.

4.6.10 Systems Engineering Program

Led by Prof. Yoram Reich, is a unique program. The program specializes in advancing the field of systems engineering, combining cutting-edge research with practical applications.

4.6.11 Space

Figure 4.6: TAUverIL Team Meeting.

We are delighted to launch our new program – a research-based Master's degree with a dedicated Space Division. The sky is no longer the limit! Stay tuned. In the meanwhile - A record-setting constellation of nine nanosatellites, developed by Israeli high school students, has been successfully launched into low Earth orbit from Vandenberg Space Force Base in California.

Spearheaded by the Ministry of Innovation, Science, and Technology, together with the Faculty of Engineering at Tel Aviv University and nine local municipalities, the mission marks the largest satellite formation ever deployed by Israel. Read more here: Link

Also, the TAU-SAT program, located in the Faculty's Nano Satellite Center, enables students to design, construct, and launch TAU SAT1, Israel's first academic nano-satellite, which currently orbits Earth and collects cosmic radiation data.

5. Public Engagement

Public engagement continues to be a cornerstone of our mission, reinforcing the bond between our academic community and the wider society. Through outreach programmes, community collaborations, and knowledge-exchange initiatives, our faculty not only highlights pioneering research and innovation, but also ensures that engineering solutions are grounded in real-world needs and challenges. These efforts raise the faculty's profile and reputation, draw outstanding students and partners, and motivate future generations of engineers. In addition, public engagement fosters a strong sense of social responsibility, helping to ensure that our teaching and research make a tangible contribution to economic growth, environmental sustainability, and the well-being of the broader community.

Figure 5.1: Faculty Day 2025

5.1 Faculty Day

On July 10, 2025, after a delay due to the war, we held our annual Faculty of Engineering Day at Tel Aviv University. More than a celebration, it was a powerful reminder of what truly drives engineering in Israel: curiosity, bold ideas, and meaningful collaborations. Faculty Day 2025 was a great success, and we are happy to share with you some of the highlights. At the heart of the day, outstanding final projects were presented from hundreds of students, thought-provoking panels, and conversations on the challenges and opportunities facing engineering today, from energy and healthcare to cybersecurity, AI, and beyond. A special highlight was a panel moderated by journalist and social activist Miki Haimovich, addressing the social responsibility of engineering and the importance of training the next generations of engineers for decades ahead, amidst rapidly shifting economic, technological, and environmental landscapes. The panelists: Ines Zucker, Yuval Beck and Gideon Segev shared their insights from their paths in these important yet demanding domains. Another memorable moment: the talk by Dr. Ronen Dar, TAU Engineering alumna, founder of Run:AI, and now VP at NVIDIA. His story of turning a theoretical research as a beginning into a career of entrepreneurship, thanks to visionary mentors and the right people along the way, was a testament to the potential of university-education and innovation to shape entire industries.

And within all the hustle and energy of the open labs and exhibition halls, it was impossible to miss the presence of curious teenagers, sometimes in groups, sometimes with parents, moving between projects, asking sharp questions, and quietly shaping their own future. Engineering education is no simple task: it is expensive, demanding, and resource-intensive. But this event made it clear, when academia and industry work together, the return on that investment benefits an entire society. Huge thanks to Intel, Nova, Mobileye, KLA, and Marvell for supporting the event and to Run.ai and X-trodes for participation and showcasing their technologies.

The resilience and spirit of the Israeli tech industry never cease to inspire. Even in the face of immense challenges, Israeli companies and institutions continue to deliver for their customers, partners, and for the future. In the spirit of the “Israeli Tech Delivers, No Matter What” campaign, we are proud to share a snapshot from our fourth-year undergraduate final project program at Tel Aviv University. As part of our 2025 Faculty Day, we conducted final project exhibitions and competitions. In the image below: the two happy first-prize winners of the ECE program together with their dedicated mentor. If you look closely in the background, you will spot a shattered window, a stark reminder of a massive blast near our campus just weeks ago. And yet, here we are: innovating, mentoring, building. The winning team is part of our VLSI design program where we pair talented students with industry experts for an intensive, hands-on journey in chip design. Through weekly mentorship sessions, students develop real, cutting-edge projects, some even advancing to tapeout. It is an initiative built to equip the next generation of VLSI designers with not just technical skills, but with the resilience, teamwork, and creativity that define Israeli tech. We are proud to be part of this community, and grateful to the incredible mentors and students who keep showing up, delivering, and leading by example.

The student-led Rover Project Team unveiled a fully functional rover system they designed, built, and tested over the past year. From mechanical systems to navigation and control, the team tackled every challenge hands-on and delivered an impressive working prototype. The rover was demonstrated (almost) live at the event, drawing well-deserved attention and praise from faculty, students, and industry guests alike. Projects like this are what make experiential learning so powerful, blending engineering theory with creativity, teamwork, and real-world problem solving. Huge congratulations to the team and their mentors for making this vision a reality.

Following the great success of our Faculty Day 2025 we are beginning the preparations for 2026. Join Us in Supporting Faculty Day 2026 at Tel Aviv University, bringing together students, researchers, and industry professionals for a dynamic day of activities. The event will feature: Final project presentations, Research demonstrations, Scientific and panel discussions, and Networking opportunities. This year, we will place special focus on aviation and space, acknowledging the Faculty's longstanding leadership in these domains, as well as their growing importance for national security, technological progress, and everyday life. More information about Faculty Day 2026: Link.

5.2 Patient Transport

Figure 5.2: From left to right: Bar Yitzhak, Noga Paz, Prof. Tal Raviv, Alon Kaminar, Prof. Eran Toch at the 2025 Faculty Day

One special final graduate project began when Alon Kaminar was hospitalized at Sheba Medical Center after being critically wounded in the October 7 war. During his long recovery, Alon became deeply familiar with the hospital's complex logistics and identified inefficiencies in patient transport between departments. Together with Bar Yitzhak and Noga Paz, they initiated a graduate industrial engineering & management project to address this challenge, advised by Prof. Eran Toch. The team developed a data-driven optimization system and smart assignment algorithm that dynamically matches transport requests to available ambulances based on urgency, waiting time, and proximity. Using a simulation model and a prototype interface integrated into Sheba's workflow, their solution demonstrated a 21% reduction in average patient transport time, improving both operational efficiency and patient care. The project and underlying analysis were used by Sheba Medical Center not just for optimizing logistics, but also for designing their new campus in the southern Negev desert. The project received an excellency award at the Faculty Day.

5.3 Mars Rover

50 engineering students from Tel Aviv University are convening to design and build a Mars rover capable of tackling the Red Planet's challenging terrain.

This multidisciplinary project combines expertise in:

- Mechanical engineering and robotics

Figure 5.3: The Mars Rover 2025 team.

- Computer vision and AI
- Materials science and advanced technologies

Our rover will proudly represent Israel at an international competition in Poland, showcasing the creativity, skill, and teamwork of the next generation of engineers.

5.4 Engineering Design Classes

In the Engineering Design courses offered by the School of Mechanical Engineering and the Department of Biomedical Engineering, students work with municipalities, hospitals, and NGOs to create engineering solutions that address unmet societal needs. These classes not only tackle urgent real-world problems, but also help students build key competencies in teamwork and project management. Throughout the process, from defining the problem and brainstorming ideas to building prototypes and conducting tests, students engage in hands-on learning across the entire engineering design cycle. The projects are wide-ranging and socially impactful, including initiatives such as adapting household appliances for people with visual impairments, developing devices to aid stroke rehabilitation, and designing tools that help school-aged children with cerebral palsy to carry out everyday tasks. Collectively, these projects highlight students' capacity to apply engineering concepts to enhance quality of life and make significant contributions to society.

6. News and Recognition

6.1 Leadership in Engineering and Technology

We are delighted to share that Tel Aviv University has been recognized as a 2025 Leader in Engineering and Technology by Research.com! #1 in Israel. Also, the latest Shanghai Global Ranking of Academic Subjects has been released, and it is exciting to see our engineering and technology fields placed prominently on the global stage. These rankings reflect the talent, impact, and innovation of our research community. Automation & Control (Top 76–100 worldwide). A field driven by breakthroughs in robotics, autonomous systems, and intelligent control. Computer Science and Engineering (Top 76–100 worldwide). From AI to cybersecurity, this field continues to shape the future of industry and society. Medical Technology (#42 worldwide!). These rankings reflect the cumulative achievements of faculty, students, research partners, and the broader scientific community. Our leadership in these fields is driven by internationally recognized experts. Control: Emilia Fridman, Michael Margaliot, George Weiss, Rami Katz (new). Computer Science / Computer Engineering: Benny Applebaum, Shai Avidan, Roy Lederman, Shai Solomon, Alon Peled-Cohen, Dan Raviv, Boaz Patt-Shamir, Yuval Shavit, Dana Ron and Guy Even.

6.2 Faculty Research Awards

This year's esteemed Faculty award honorees are: Prof. Ady Arie (School of Electrical and Computer Engineering), who received the Lifetime Achievement Award, and Prof. Gili Bisker (School of Biomedical Engineering), Prof. Pavel Ginzburg (School of Electrical and Computer Engineering), and Prof. Raja Giryes (School of Electrical and Computer Engineering), who were awarded the Research Excellence Awards for the 2024/25 academic year.

6.3 Prof. Emilia Fridman - IFAC Fellow

Professor Emilia Fridman has been elected as a Fellow of the International Federation of Automatic Control (IFAC), in recognition of her outstanding contributions and impact in the field.

6.4 Prof. Emilia Fridman - New Book

A new book by Prof. Emilia Fridman has been published: Link. This new book studies stability in complex distributed parameter systems using advanced robust control. It provides Lyapunov-based linear matrix inequality conditions for constrained, sampled-data, event-triggered, and disturbance rejection control. The book introduces strategies to address nonlinearity, uncertainties and delays, with theoretical results that support practical engineering applications.

6.5 2025 Alumni Recognition

Figure 6.1: A Certificate of Appreciation for Mr. Shmuel Auster for his many years of dedicated efforts to advance the field of electrical engineering.

As we reflect on our achievements and activities this year, the work of our alumni organization and the accomplishments of our alumni stand out as a source of great pride and gratitude. This year, we were especially pleased to recognize Mr. Shmuel Auster for his many years of dedicated efforts to advance the field of electrical engineering in Israel. During our alumni event, which concluded Faculty Day, we presented him with a certificate of appreciation that highlights his exceptional contributions to strengthening the ties between academia and industry, his professional, public and international engagements, and his inspiring example for the next generation of engineers. The Faculty of Engineering extends its heartfelt thanks and appreciation to Mr. Auster for his leadership, values, innovation, and unwavering commitment to advancing engineering for the benefit of the State of Israel.

6.6 IEEE Israel Recognition

Prof. Amir Boag and Prof. Pavel Ginzburg from the School of Electrical and Computer Engineering at Tel Aviv University have been recognized for their invaluable contributions to IEEE Israel. They received a recognition award from Shmuel Auster, Chair of IEEE Israel and an esteemed alumna of our School, during the celebration of the 70th anniversary of the founding of the Israeli IEEE section. The Israeli section of IEEE, inaugurated on October 5, 1954, holds the distinction of being the first I.R.E. branch in the Eastern Hemisphere. In 1963, following the IRE-AIEE merger, it became part of IEEE Region 8, recognized as the first section in Europe, Africa, and the Middle East. Over the past 70 years, the Israeli section has grown into a thriving hub, hosting a prestigious biannual international conference and supporting 23 professional groups (chapters). These groups organize numerous scientific and technical events, fostering collaboration and innovation in partnership with the Association of Engineers in Israel.

Figure 6.2: A Recognition Award from Shmuel Auster, Chair of IEEE Israel.

6.7 Prof. Pavel Ginzburg - MIA Award

Prof. Ginzburg from the School of Electrical and Computer Engineering was among the recipients of the Minister of Immigration and Absorption Award for **Outstanding Contribution to Society and the State during the "Iron Swords" conflict**. The prestigious award was presented to him in a ceremony by the President of Israel.

6.8 Dr. Or Perlman - Krill Prize

Dr. Or Perlman was honored with the prestigious Krill Prize, an award that recognizes outstanding young scientists in Israel for their significant achievements and promising contributions to research. This distinction is given to researchers who have demonstrated excellence, originality, and potential for impactful future work in their respective fields. Dr. Perlman's receipt of this prize highlights both the quality of his scientific accomplishments to date and his emerging leadership within the academic community.

Figure 6.3: Dr. Or Perlman receiving the prestigious Krill Prize, which recognizes outstanding young scientists in Israel for their significant achievements, originality, and promising contributions to research.

6.9 Dr. Sivan Trajtenberg Mills - Alon Fellowship

Dr. Sivan Trajtenberg Mills has been awarded the prestigious Alon Fellowship, recognizing her outstanding academic achievements and research potential.

6.10 UCI-TAU Workshop

Earlier this year, the University of California, Irvine (UCI) hosted the UCI–TAU Workshop, bringing together 12 engineering faculty members as invited participants. This event was made possible through the generous support of the Samueli Foundation.

6.11 New Chief Scientist

We are proud of Prof. Brian Rosen from the School of Materials Science and Engineering for being recognized for his outstanding contributions to research and innovation. Congratulations on this well-deserved appointment as the new chief scientist of the Ministry of Energy.

6.12 Highlight Paper - Dr. Nimrod Ginzberg

A paper by Dr. Nimrod Ginzberg, Senior Lecturer at the School of Electrical and Computer Engineering, and Prof. Emanuel Cohen of the Technion, was chosen as the Highlight Paper for the November 2025 issue of *IEEE Transactions on Circuits and Systems II*.

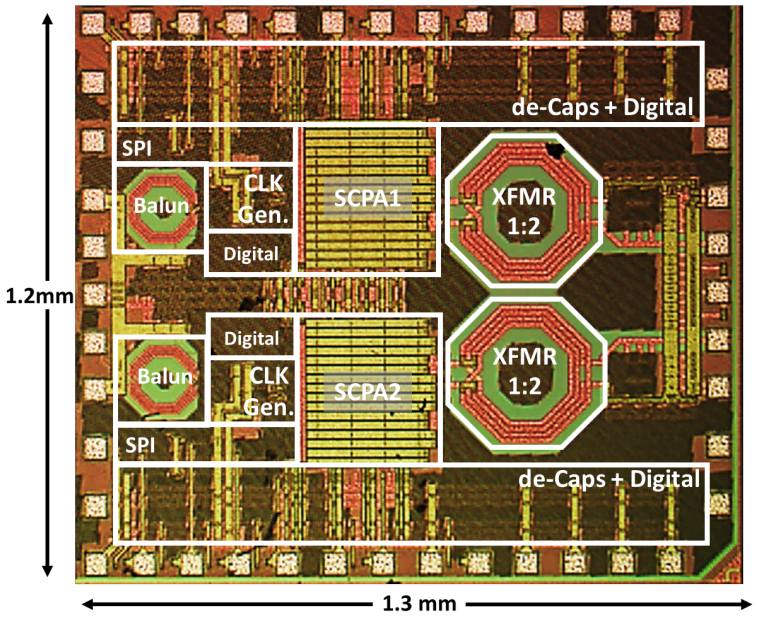


Figure 6.4: The article introduces a novel digital power amplifier architecture featuring dynamic scaling of the core size, which boosts the maximum output power and enhances efficiency at power backoff: ***Link***

6.13 Honorary Fellow of the Faculty of Engineering- Prof. David N. Seidman

The Faculty of Engineering hosted Professor David N. Seidman of Northwestern University and Mrs. Shoshana Seidman. During the visit, Professor Seidman was awarded the title of **Honorary**

Fellow of the Faculty of Engineering by University President Professor Ariel Porat. It is the first time this distinction has been conferred, recognizing his outstanding scientific achievements in materials science and engineering, his international standing, and his long-standing contributions to the Faculty, the Department of Materials Science and Engineering, and to research in Israel. Professor Seidman is a pioneer of Field-Ion Microscopy and Atom-Probe Tomography and the founder of NUCAPT at Northwestern University. A member of the U.S. National Academy of Engineering and a Fellow of the American Academy of Arts and Sciences, he has received numerous international honors. Over many years, Professor Seidman and his family have been dedicated supporters of Israeli academia, providing mentorship, hosting researchers, and offering substantial philanthropic support to Tel Aviv University and other institutions.

Figure 6.5: Prof. David N. Seidman of Northwestern University and Mrs. Shoshana Seidman.

6.14 Student Achievements

Tel Aviv University students have developed TAUverIL, the university's first Mars rover prototype. This pioneering, student-driven initiative, guided by Prof. Yoram Reich and Danny Berko, assembled undergraduates from the Fleischman Faculty of Engineering to design and build a rover equipped with autonomous navigation, robotic arms, scientific payloads, and even a drone for field operations. TAUverIL marks the first academic rover project of its kind in Israel, with the ambitious mission of competing in the European Rover Challenge (ERC) in Poland, one of the world's toughest Mars simulation competitions. We are grateful for Altair for their support.

6.14.1 iGEM

Students from Tel Aviv University Gold in a Prestigious Competition. More than 400 teams participated this year in the international iGEM competition, and two teams from Israel returned home with gold medals. The team from Tel Aviv University won gold for developing an innovative strategy for treating advanced lung cancer.

6.14.2 Trauma and Music

Students from the School of Electrical and Computer Engineering — Shani Bar Yosef and Adi Maslati, supervised by Dr. Lior Arbel Kozakevich, developed an end-to-end data engineering pipeline and analyzed two years of Spotify's Weekly Top 50 charts in Israel to examine how a national traumatic event influences listening habits and what music can reveal about collective emotional states. Their work included collecting data using Selenium and the Spotify API, automatically classifying Israeli vs. international artists, enriching the dataset with musical features extracted via PyTubefix and Essentia (including Danceability, Valence, Arousal, Dynamic Complexity, and Key Scale), and building a full statistical analysis environment using Jupyter Notebooks, pandas, matplotlib, scipy.stats, pyhomogeneity, and dtaidistance. They applied statistical tools such as T-Test, ANOVA, SNHT for change-point detection, and DTW for measuring distances between time series. To learn more about their findings, you can read the full article here: ***Link***

6.14.3 MIT-Kalaniyot Postdoctoral Fellow

We are proud of our graduate, Dr. Gal Neria, on her appointment as a Postdoctoral Associate at the MIT Sloan School of Management and the Operations Research Center (ORC). Notably, Gal was also selected as an MIT-Kalaniyot Postdoctoral Fellow. Her research integrates Operations Research and Machine Learning to optimize dynamic stochastic systems. Gal completed her Ph.D. and M.Sc. (Summa Cum Laude) at Tel Aviv University under the supervision of Prof. Michal Tzur.

7. The Faculty (1970-2026)

7.1 Brief History

The Fleischman Faculty of Engineering at Tel Aviv University is widely considered one of Israel's leading and most respected engineering schools. Established in 1971, it was founded largely through the vision of Professor Yuval Ne'eman, who at the time served as the university's president. His guidance set the stage for the faculty's continued expansion and accomplishments. Today, Tel Aviv University's Faculty of Engineering is recognized for its groundbreaking research across a wide spectrum of advanced fields. One of its primary focal areas is Nanotechnology and Nanoscience, which includes nanophotonics, nanomaterials, and nanoelectronics, with a strong emphasis on manipulating light and designing devices at the atomic level. Another flagship field is Biomedical Engineering, which encompasses work in neuroengineering, medical instrumentation, and biomaterials, all aimed at improving healthcare technologies, particularly for neurological conditions and tissue repair. Robotics and Control Systems form another core area of research, where autonomous systems, human–machine interaction, and AI-driven control solutions are developed for use in healthcare, manufacturing, and robotics. The faculty also plays a leading role in Quantum Technologies, exploring quantum computing, quantum communication, and quantum sensing to push the limits of secure communication and computational power. Since its founding, the faculty has educated more than 22,000 graduates, many of whom

now occupy influential roles in academia and the high-tech sector. In the field of Advanced Materials and Devices, researchers focus on semiconductors, energy storage technologies, and flexible electronics, contributing to advances in computing, sustainable energy, and wearable devices. Research in Data Science, Machine Learning, and AI centers on big data analytics, computer vision, and deep learning, underscoring the expanding role of AI in healthcare, robotics, and natural language processing. Lastly, the Communications and Signal Processing area addresses progress in wireless and optical communication systems, as well as cutting-edge signal processing techniques for image, speech, and video applications.

7.2 Deans

The deans of the Fleischman Faculty of Engineering have played pivotal roles in shaping its trajectory. Below is a list of those who have served as dean:

- Maurice Brull (1971–1977)
- Israel Wignansky (1977–1980)
- Emmanuel Marom (1980–1983)
- Adi Seidman (1983–1988)
- Yaakov Aboudi (1988–1993)
- Uri Shaked (1993–1998)
- Gideon Langholtz (1998–2002)
- Tuvia Miloh (2002–2006)
- Ehud Heyman (2006–2014)
- Yossi Rosenwaks (2014–2022)
- Noam Eliaz (2022–present)

7.3 New Faculty Members

Each year, we are pleased to welcome a new group of exceptional faculty members. Their arrival is not simply an increase in headcount; it is an investment in the long-term future of our faculty. New colleagues contribute fresh perspectives, novel research directions, cutting-edge expertise, and renewed energy that enhance our academic community. They bolster our capacity to mentor students, broaden our partnerships with industry and other institutions, and help propel innovation across all our programs. We take pride in continuing to build a dynamic, diverse, and forward-looking faculty that shapes the next generation of engineers and researchers. We are delighted to share the list of new faculty members who are joining our ranks:

- Dr. Sivan Trajtenberg Mills (Electrical and Computer Engineering) **Starting:** July 1, 2025
  Specializes in the development of tools and systems for **photonic quantum computing**. Dr. Trachtenberg is an experimentalist with extensive experience in complex laboratory systems and has acquired all her degrees from Tel Aviv University.
- Dr. Itay Griniasty (Mechanical Engineering) **Starting:** July 1, 2025
  Works on complex functionalities in multi-parameter models, focusing on **metamachines, deep neural networks, and climate simulations**. His research combines analytical theory, numerical simulations, experimental studies using macroscopic model systems, and collaborations with leading laboratories in micro- and soft-machine fabrication.

- Dr. Ben Nassi (Electrical and Computer Engineering) **Starting:** July 1, 2025
  Focuses on **practical cryptography and hardware-based security**. Within the broader scope of security and privacy in the IoT era, his work addresses topics such as cyber-physical system protection, side-channel attacks using optical sensors, and the security and privacy of AI-powered systems.
- Dr. Rami Katz (Electrical and Computer Engineering) **Starting:** October 1, 2025
  Applies **control theory and dynamical systems** to uncover new insights in engineering, physics, and systems biology. Dr. Katz is a theoretician and a graduate of Tel Aviv University's Electrical Engineering program.
- Dr. Yehezkel Reshef (Industrial Engineering) **Starting:** October 1, 2025
  Specializes in **data science** with a strong interest in **human-centered artificial intelligence** and its applications in ecology and transportation science. Dr. Reshef joins Tel Aviv University from the Hebrew University, where he also held a joint appointment at the Museum of Natural History.
- Dr. Lior Michaeli (Electrical and Computer Engineering) **Starting:** October 1, 2025
  Explores and manipulates **optomechanical systems** at macroscopic scales. An experimentalist with deep technical expertise, Dr. Michaeli is also a graduate of Tel Aviv University's School of Electrical Engineering.
- Dr. Chen Shani (Industrial Engineering) **Starting:** January 1, 2026
  Bridges **human cognition** and **natural language processing (NLP)** to enhance the understanding and application of artificial intelligence systems.
- Dr. Avi Shaked (Mechanical Engineering) **Starting:** January 1, 2026
  Specializes in **systems engineering**, focusing on improving the design and integration of technical, non-technical, and socio-technical systems. Dr. Shaked brings substantial industry experience from **Israel Aerospace Industries (IAI)**.
- Dr. Aharon Blank (Electrical Engineering) **Starting:** January 1, 2026
  An expert in **magnetic resonance**, Dr. Blank develops both fundamental and applied technologies in the field, including systems for **quantum computing**, enhancements to **ESR equipment**, and magnetic resonance techniques for **medical applications**.

8. Be involved

Many leading technology companies in Israel are already working with us, and we are deeply grateful for their support and collaboration. In particular, we are grateful to the ongoing collaboration with Amdocs, Apple, Broadcom, Chevron, Elbit, Energix, Google, HP, IAI, IEC, Intel, Interlligent, Keysight, KLA, Microchip, Mobileye, Nova, Nvidia, Qualcom, Rohde and Schwartz, and Systematics.

As part of our ongoing commitment to deepening our engagement with industry, we warmly invite our alumni and industry partners to play an active and meaningful role in supporting the Faculty. There are a variety of ways in which you can contribute, including collaborating on industry-focused research and development projects; providing internships, placements, and employment pathways for our students and graduates; offering guest lectures, workshops, and mentorship to enrich the student learning experience; advising on curriculum development to help ensure our programs remain relevant to current industry needs; supporting scholarships, prizes, and other student-focused initiatives; partnering with us on events, networking activities, and professional development opportunities. More specific opportunities:

- Serve as a dedicated mentor for a final project, guiding the student through each stage of the process—from defining a clear, achievable topic and setting milestones, to conducting research, developing solutions, and refining the final deliverables. Provide constructive feedback, help troubleshoot challenges, encourage critical thinking and independence, and support the student in meeting academic standards and deadlines while fostering their confidence and professional growth.
- Join our Alumni Mentoring Program and share your experience by guiding current students through their academic, professional, and personal development as a dedicated alumni mentor.
- Sponsor the Final Project Exhibition held during Faculty Day, supporting the event's organization, promotion, and recognition of outstanding student work.

8.1 Useful Information

- Follow us on Linkedin: Link
- Suggest a Final Project: Link
- Contact us by mail: Link
- 2024 Report: Link
- Faculty expert catalog: Link
- Search for on expert using CRIS: Link
- Faculty web page: Link
- Engineering Alumni Organization: Link

If you are interested in partnering with us, feel free to reach out. We would be delighted to explore meaningful ways to collaborate. The full list of partner industries is available here: Link