

The Aerospace Engineering Building

in the Faculty of Aerospace Engineering

Launching a New Era



Architect's rendering of the future Faculty of Aerospace Engineering building



Technion Mt. Carmel campus



Historic aerospace engineering building soon after construction



The Technion's Faculty of Aerospace Engineering (FAE) sits at the core of Israel's endeavors in defense. Following the War of Independence, Prime Minister Ben Gurion entrusted the department with a vital role: to train the engineers who would go on to provide the Israeli Air Force with the technological edge necessary to achieve air supremacy in the region. Today, nearly 70 years later, the department continues to serve as a constant, foundational element in the state's defense strategy.

Through the years, the faculty has remained committed to its mission of training thousands of professionals who produce significant contributions to the research and development of Israel's front-line aerospace technologies. FAE is supported by, and partners with, Israel's Ministry of Defense (MOD) and major defense industries (Rafael, IAI and Elbit). To this day, it is the one and only academic entity in Israel wholly devoted to leading-edge research and education in aerospace science and technology.

The faculty currently enrolls 400 undergraduate and 150 graduate students, while employing 23 faculty members. Research focuses on areas such as control, navigation, and guidance; aerodynamics and fluid mechanics; design optimization; combustion and propulsion; astronautics; structures and solid mechanics. FAE alumni have developed groundbreaking innovations such as the famed "Iron Dome" defense system. Research advances in aerospace science and technology are also facilitating novel innovation in other disciplines, including medicine, biology, renewable energy systems and more. Several international university rankings place the Technion's FAE among the top 20 of its kind in the world.

On the Front Line

Challenges to Israel's defense continuously evolve and proliferate as newer technologies are introduced into the region. As witnessed by the conflict between Russia and Ukraine, manned aircraft, drones and other airborne technologies have proven game-changers in combat. Israel's adversaries work tirelessly to obtain and perfect these and other aerospace technologies.

It is imperative that Israel autonomously produces its own defense technologies and not rely on ally countries to provide new capabilities (e.g., hypersonic). The Technion plays an integral role in this critical mission to outperform aggressive regional powers and work alongside government and industry partners to independently ensure the safety and security of Israeli citizens.

Israel has solidified itself as a global leader in satellite technologies and space systems design and is one of a handful of countries with independent satellites launch capacity.

July 2023 marks the 25th anniversary of the successful launch of the Techsat/Gurin-II microsatellite, which carried an array of experiments and remained fully operational for 11 years, the world record for a university-built satellite. It was named in honor of Joseph and Rosalind Gurwin, whose long-term support for space research enabled the Techsat mission. Israel is committed to developing high-speed technologies and is already a recognized trailblazer in autonomous aviation and aircraft design, as well as underwater vehicles and platforms. Israel maintains an extraordinary aerospace footprint in both the public and private sectors; aerospace and related industries contribute over \$10B to Israel's GNP, while accounting for nearly 3% of the nation's workforce. The Technion is a critical mainstay of this effort. That said, the Technion must persist in modernizing and expanding its research and educational aerospace engineering infrastructure.

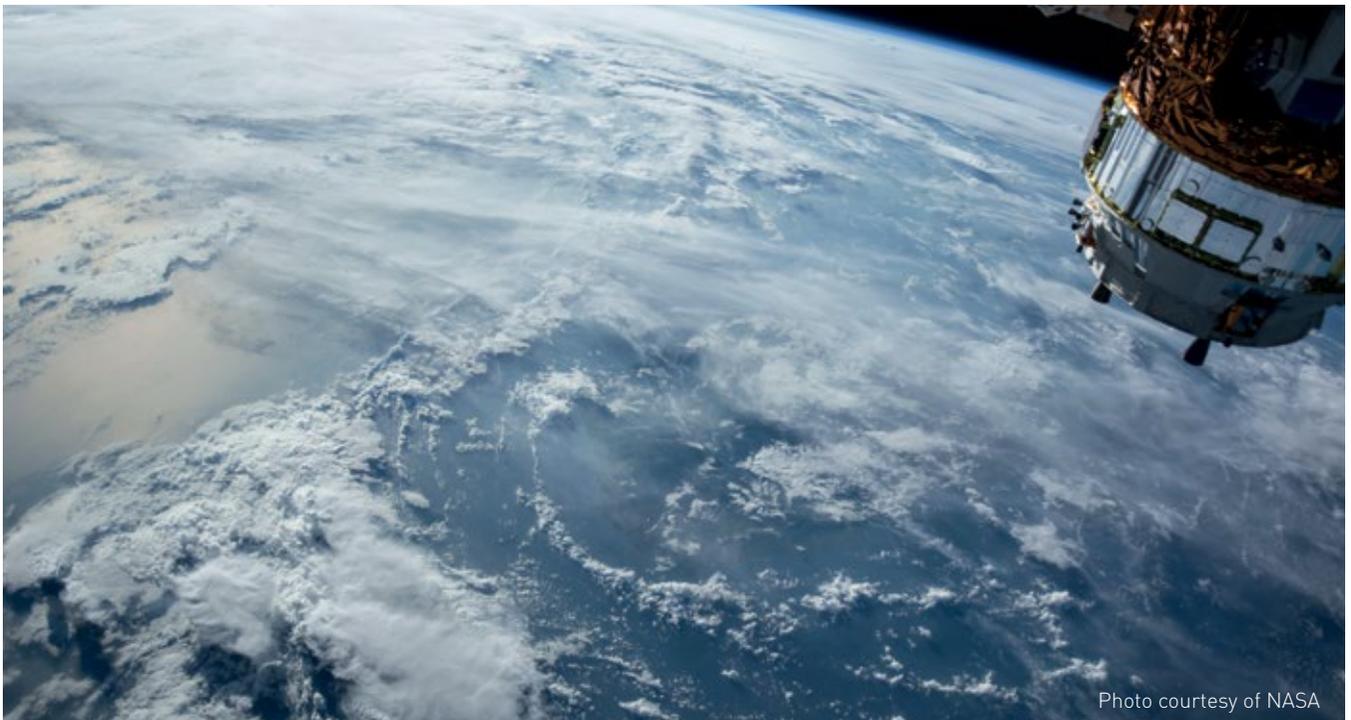


Photo courtesy of NASA



Architect's rendering of the new Faculty of Aerospace Engineering building

Addressing Urgent Needs

The Faculty of Aerospace Engineering still operates out of the very first building to be erected on the Technion's main Mt. Carmel campus more than 70 years ago. The structure has been designated for preservation due to its historical importance and unique architectural features. Nevertheless, the building is now in poor condition and fails to meet basic safety standards and space requirements. The facilities within the building are now obsolete and insufficient in meeting the growing needs and expectations of the faculty and its students. Last year, portions of the structure were officially declared hazardous and were urgently evacuated. Faculty and students were then moved into unsuitable, temporary accommodations. All this, as the faculty continues to grow and meet the changing needs of research in aerospace engineering.

The Technion plans to construct a new building alongside the original structure, featuring a substantial increase in available space for classrooms, laboratories and offices. Designed to inspire Israel's future generations of aerospace engineers and researchers, the planned 80,730 ft² (7,500m²) facility will offer state-of-the-art teaching and research environments - comparable to those found in the world's elite technological universities.

The Technion has implemented an ambitious strategic development plan to expand the Faculty of Aerospace Engineering from 23 to 32 faculty members. With this growth, the Technion anticipates undergraduate enrollment will increase from approximately 350 students to 400 students, a 14% increase, and graduate enrollment will increase approximately 150 students to 200 students, a 33% increase.

The Vision

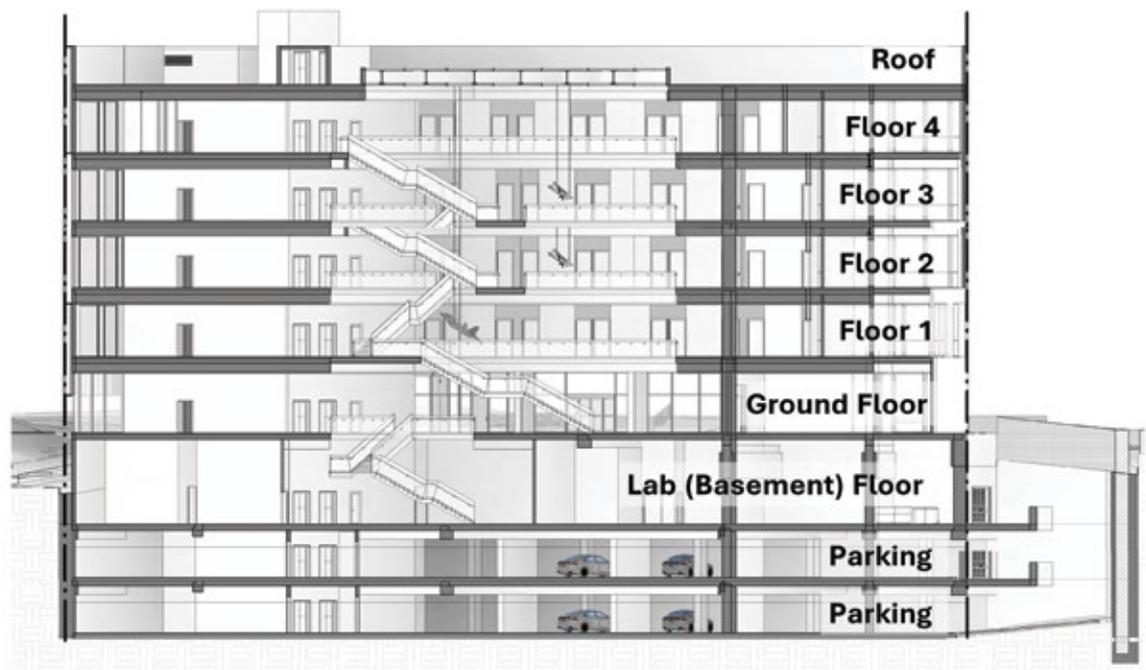
The future home of the Faculty of Aerospace Engineering will feature expanded, modernized facilities designed to accommodate growth for years to come. Laboratory, research and learning areas will be equipped to meet 21st century standards in STEM education and research with the capabilities necessary to enhance the development capacity for Israeli security.

Funding Opportunities

The **Aerospace Capital Fund** will allow the Technion to provide direct support to the general capital or maintenance needs of the new Aerospace Building.

Gifts of \$100,000 and above are welcomed to support this fund.

In addition, individual facilities within the building that are available for naming are listed on the next two pages.



Cross-section of the new Faculty of Aerospace Engineering building



Architect's rendering of the new building's interior

Floor	Description	Cost (\$)
Lower Ground Floor	Naming Lower Ground Floor	2,000,000
	Lower Lobby	750,000
	Large, Multidisciplinary Research Labs (3)	700,000
	Standard Research Labs (4)	500,000
Ground Floor	Naming Ground Floor	2,000,000
	Lobby	1,000,000
	Large Classroom	400,000
	Study Area	125,000
Floor 1	Small Auditorium	425,000
	Teaching Labs (3)	250,000
	Multipurpose Room	250,000
	Balcony	100,000
	Meeting Room/Bomb Shelter	100,000
	Graduate Student/Research Staff Offices (6)	25,000
Floor 2	Naming Floor 2	2,000,000
	Learning Center for Undergraduates Dining Area and Kitchenette	550,000
	Graduate Student Study Area (ON HOLD)	300,000
	Multipurpose Meeting/Teaching Room	300,000

Floor	Description	Cost (\$)
Floor 2	Group Study Rooms (2 - Undergrad and Grad)	150,000
	Undergraduate Silent Study Room	100,000
	Excellence Program Study Room	75,000
	Music Room	50,000
	Graduate Silent Study Room (4)	25,000
Floor 3	Naming Floor 3	2,000,000
	Admin Office	225,000
	Dean's Office	150,000
	Lounge	150,000
	Meeting Room/Bomb Shelter Faculty Floor	100,000
	Balcony	25,000
	Faculty and Research Staff Offices (20)	25,000
Floor 4	Faculty Lounge	200,000
	Meeting Room/Bomb Shelter	100,000
	Faculty Offices (25)	25,000
Rooftop	Naming Rooftop	500,000

Architect's rendering of the new building's interior



Donor Recognition

The highest form of donor recognition bestowed by the Technion is the title of Technion Guardian. This extraordinary honor is awarded by the university to its most devoted friends upon reaching the milestone of \$1 million in support.

Gifts starting at \$100K will be listed in the President's Report, the official annual report of the Technion. Gifts are listed in one printed version of the Report and then in perpetuity in the online version; listings appear when gifts reach 50% completion.

Donors to the **Aerospace Capital Fund** will receive an annual report containing updates on construction plans, research, faculty, and students. Donors will also have their name included on a physical master plaque to be mounted at an appropriate location in the plaza in front of the Aerospace Building or in the lobby.

Donors who bestow specific aerospace capital naming gifts will receive an annual report containing updates on construction plans, research, faculty, and students. Their names will also be included on a physical plaque located in the specific facility they are supporting.





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