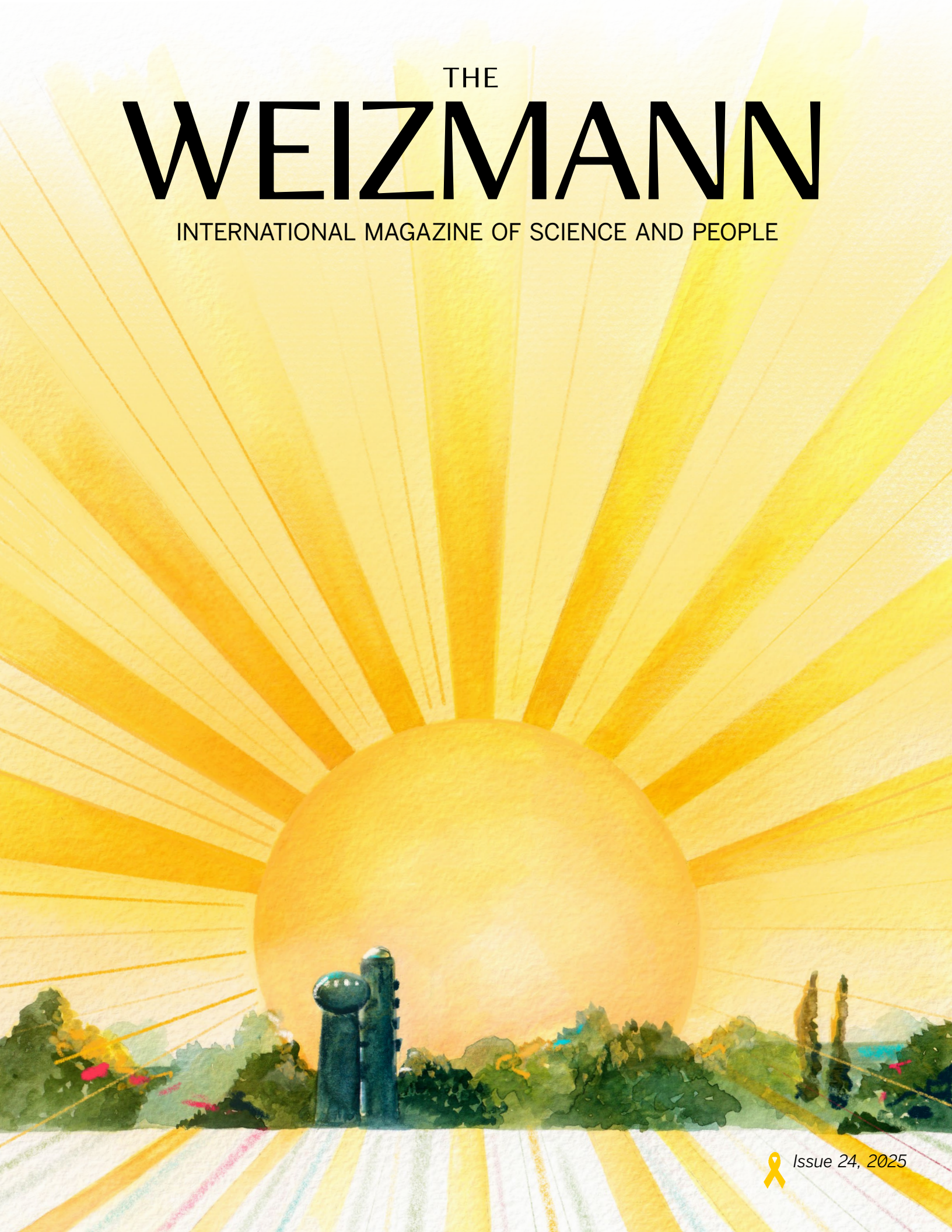
THE WEIZMANN

INTERNATIONAL MAGAZINE OF SCIENCE AND PEOPLE



Issue 24, 2025

Rendering by Daniella Plesner

Guardians of the gatehouse

Once the home of Dr. Chaim Weizmann's chauffeur, the historic Mendelsohn-designed gatehouse on the southern edge of the Weizmann campus is being reborn as a vibrant meeting spot for cappuccinos, culture, and conversation.

As part of a sweeping vision to refurbish the Weizmann Estate and strengthen its connection to the city of Rehovot, this charming two-story structure is now under landmark restoration. Soon, Café Vera will welcome visitors on the ground floor, with a cozy upstairs space for talks, gatherings, and learning.

The new facility will be open to students, families, and the public, including on weekends.

Table of Contents

Letter from the President

Dear friends,

As I write this letter, Israel is embracing a celebratory moment following the return of the remaining live hostages in Gaza, while we await the return of all the deceased and a series of steps that, we hope, will bring the war to a close. At the Weizmann Institute, we welcome this milestone with great relief, even elation, but not without remembering all those lives lost during and since the Hamas attacks on Israel on October 7, 2023.

The regional war literally hit home on our beautiful campus with the Iranian ballistic missile attacks that struck two buildings in the early morning hours of June 15 and left dozens more badly damaged. We are in a process of recovery, renewal, and rebuilding. Now, the ceasefire agreement puts the Institute on a faster trajectory to those ends. As you'll see on these pages, our science has never stopped, despite the setbacks. This has been gratifying to witness.

The outpouring of support from our global community of friends, including generous gifts toward our Emergency and Recovery Fund, has been tremendous. This has come in the midst of a 10-year campaign, *Empower Tomorrow*, which is helping to position the Weizmann Institute for even greater achievements in the years ahead.

Thank you for your friendship and partnership. Enjoy this issue of *Weizmann Magazine*!

Sincerely,

Prof. Alon Chen
President, Weizmann Institute of Science

More than **words**

Discovering the hidden musical “syntax” of natural speech

The large language models that allow AI systems like ChatGPT to predict the next word based on what came before tend to overlook a crucial aspect of human communication: the fact that meaning is not conveyed by words alone. In a new study published in *Proceedings of the National Academy of Sciences (PNAS)*, researchers from Prof. Elisha Moses’s lab have demonstrated how the melody of speech functions as a distinct language that follows its own rules. Referred to by the linguistic term “prosody,” this language encompasses variations in pitch, loudness, tempo, and voice quality, and adds a nuanced layer of meaning beyond words.

Thanks to the Moses team’s innovative approach, we now have a better understanding of the statistical rules and patterns of prosody, which predates words in human evolution, and how it contributes to human communication.

The study, led by linguist Dr. Nadav Matalon and neuroscientist Dr. Eyal Weinreb from the Moses lab in the Department of Physics of Complex Systems, investigated prosody as an unfamiliar language, using an AI model to analyze massive collections of audio recordings of spontaneous conversations in English. The model found hundreds of recurring elementary prosodic patterns, forming a basic prosody vocabulary. It also revealed how these patterns can perform different linguistic functions, depending on the context.

“Imagine if Siri could understand from the melody of your voice how you feel about a certain subject and adapt her response accordingly,” says Dr. Eyal Weinreb.

This research lays the foundation for compiling a “dictionary” of prosody, which would catalog all the prosodic patterns we employ and their function or meaning in each case. Another future application could be the development of an AI tool capable of understanding and conveying messages based on the melody of speech rather than words alone.

“Imagine if Siri could understand from the melody of your voice how you feel about a certain subject and adapt her response accordingly,” Dr. Weinreb says. “We already have brain implants that convert neural activity into speech for people who can’t speak. If we can teach prosody to a computer model, we’ll be adding a significant layer of human expression that robotic systems currently lack.”

ELISHA MOSES IS SUPPORTED BY:

- The Maurice and Ilse Katz Professorial Chair

Matter at the **crossroads**

Students invent a laser “video camera” that captures light-matter interactions

Scientists working in optics labs often use lasers to change the properties of matter. But because they occur on the timescale of attoseconds—one-billionth of one-billionth of a second—the induced changes are difficult to observe and analyze. Now, Weizmann physicists have invented a powerful method for measuring how pulsed laser light modifies the refractive properties of matter, that is, the way light slows down as it passes through a particular material.

This new approach may lead to the development of technologies that will massively increase the speed at which data is stored and transmitted.

The method, reported in the February 2025 issue of *Nature Photonics*, was invented by three research students—Omer Kneller, Chen Mor, and Noa Yaffe—working in the lab of Prof. Nirit Dudovich in the Department of Physics of Complex Systems.

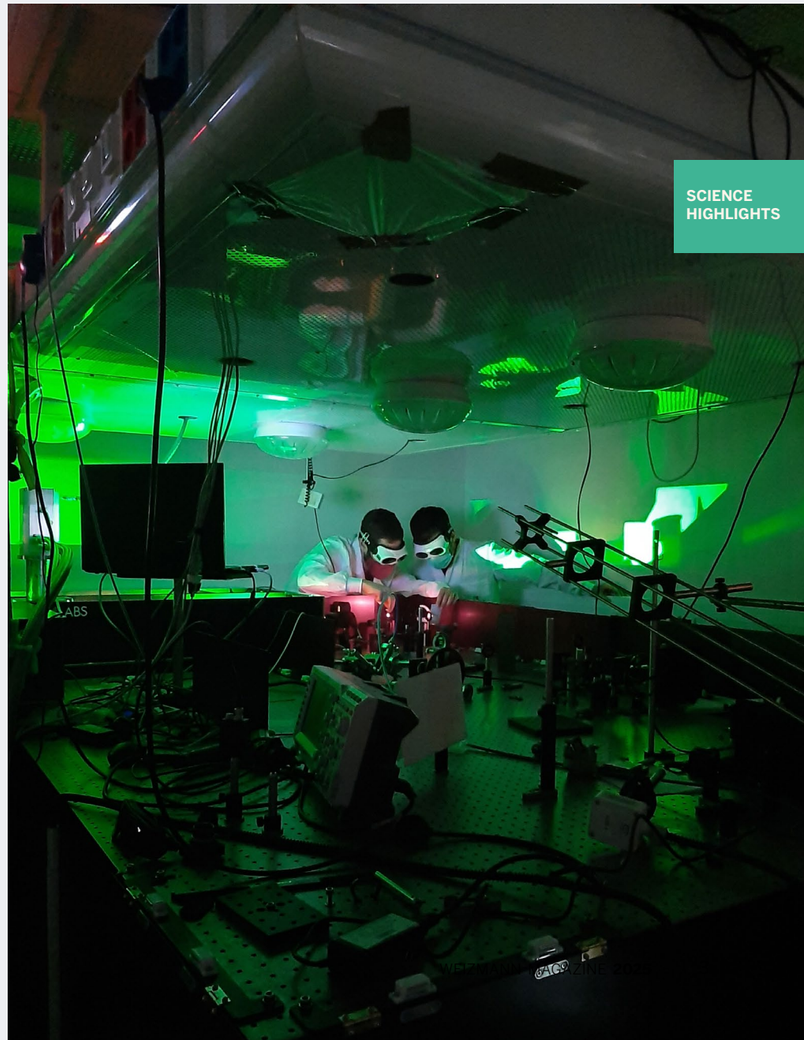
This new technology uses two laser beams. The first is a powerful one, made up of relatively long pulses, that modifies the optical delay experienced by light as it passes through a given material. The other laser, which emits extremely short attosecond pulses, functions as a slow-motion video camera of sorts. These attosecond pulses come in two copies which are ultimately brought together and—like the physical change that occurs when two sets of ripples meet on the surface of a body of water—interfere with one another. This interference allows the researchers to precisely reconstruct the change in the optical delay.

Using this approach, the Dudovich team successfully measured how pulses of laser light changed the properties of single atoms. They were also able to characterize the interaction between light and complex materials.

Prof. Dudovich believes this new method may eventually make it possible to create “snapshots” of electrons in motion, revealing phenomena that could generate important discoveries related to quantum mechanics—the theoretical framework that describes the behavior of matter and of light, and the interaction between them.

NIRIT DUDOVICH IS SUPPORTED BY:

- The Jay Smith and Laura Rapp Laboratory for Research in the Physics of Complex Systems
- The Jacques and Charlotte Wolf Research Fund in Support of Prof. Nirit Dudovich
- The André Deloro Institute for Space and Optics Research
- The Robin Chemers Neustein Professorial Chair



Omer Kneller (left) and Chen Mor direct a laser beam before it enters the experimental setup. The experiment required a powerful laser beam that could produce exceptionally short, attosecond light pulses. (*Photo by Noa Yaffe from the Dudovich lab*)

Baker's yeast gives rise to **fundamental discoveries**

New library of yeast strains elucidates protein function

There's a good reason baker's yeast is one of the world's most researched organisms: two-thirds of yeast genes have human counterparts. Still, despite scientists' best efforts over decades, for more than a thousand protein-encoding baker's yeast genes, their biological function remains a mystery. Cracking these mysteries could help us understand how analogous genes function in humans.

Now, researchers from the laboratory of Prof. Maya Schuldiner have created a new system that removes individual proteins from a yeast cell "on demand." This dynamic system can reveal each protein's unique function, an achievement that could improve our understanding of human genetics as well as the molecular dynamics that drive the onset of disease.

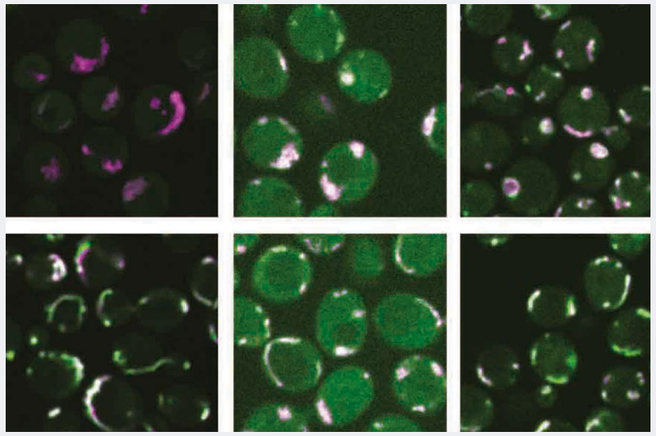
The research, led by doctoral student Rosario Valenti and Dr. Yotam David from Prof. Schuldiner's lab and published in *The Journal of Cell Biology*, describes the creation of a specially engineered genetic collection of 5,170 yeast strains, each with a different protein under the researchers' control. Using this resource, the scientists were able to determine the function of hundreds of genes that were previously not known to be vital for the cell's survival, or its capacity to divide or create cellular energy.

Specifically, Prof. Schuldiner and her team identified 220 different proteins whose absence led to structural abnormalities in mitochondria—organelles that generate most of the chemical energy needed to power the cell.

The Schuldiner lab has now created a digital library open to any scientist who wants to "borrow" these genetic strains for their research—and it is already a hit with members of the global scientific community who seek to advance their own investigations about proteins whose function is still unknown. Prof. Schuldiner and her team hope that, in the coming years, the library will help lift the veil of mystery from additional proteins by revealing the roles they play in human health and disease.

MAYA SCHULDINER IS SUPPORTED BY:

- The Blythe Brenden-Mann Foundation
- The Dr. Gil Omenn and Martha Darling Professorial Chair in Molecular Genetics



A new technology developed in the Schuldiner lab reveals that the structure of mitochondria (purple) changes when different proteins (green) are made dysfunctional. This discovery forms the basis for a new "library" of proteins that scientists can use to advance their investigations about the role these proteins play in human health and disease. (*Images from the Schuldiner lab*)

Ants vs. **humans**

Putting group smarts to the test

Ants and humans have something in common: they are the only creatures in nature that consistently cooperate while transporting loads that greatly exceed their own dimensions. Prof. Ofer Feinerman used this shared trait to conduct an evolutionary competition that sheds light on group decision making, as well as on the pros and cons of cooperation versus going it alone.

The Feinerman team created a real-life version of the "piano movers puzzle," a classic computational problem that investigates how an unusually shaped object—say, a piano—might be moved from point A to point B within a complex environment. In the team's experiments, ants and humans were observed as they tried to move a large T-shaped object across a subdivided space connected only by narrow slits. The ant and human participants were observed as they worked alone, and in small and large groups.

To make the comparison as meaningful as possible, humans were sometimes instructed to avoid communicating with each other and were asked to hold the object by handles that measured the applied pulling force, a mechanical setup that simulated how the object was held by ants.

When working alone, the human participants' cognitive abilities gave them an edge over ants. In groups, however, not only did ant teams perform better than individual ants, but sometimes they did better than human teams; groups of ants acted together in a strategic manner, exhibiting collective memory that helped them persist in a particular direction to avoid mistakes. Humans, on the contrary, failed to significantly improve their performance when working together.

"An ant colony is sometimes referred to as a super-organism, sort of a living body composed of multiple 'cells' that cooperate with one another," Prof. Feinerman explains. "We've shown that ants acting as a group are smarter, and that for them the whole is greater than the sum of its parts. On the other hand, the 'wisdom of the crowd' that has become such a popular concept in the age of social networks did not seem to manifest in groups of human participants or improve how they got the job done."

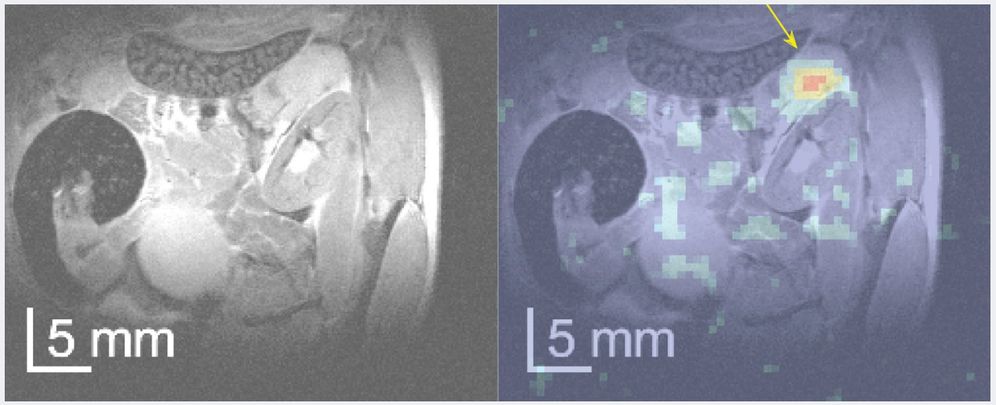
Ants and humans compete in maneuvering a T-shaped load across a maze. (*Images from the Feinerman lab*)

OFER FEINERMAN IS SUPPORTED BY:

- The Henry J. Leir Professorial Chair
- The Tom Beck Research Fellow Chair in the Physics of Complex Systems supports a staff scientist in Prof. Feinerman's lab

Sweet **MRI method** lights up pancreatic cancer

Altered glucose absorbed by cancer cells helps reveal hidden tumors



Pancreatic cancer often remains undetected because the pancreas sits deep in the abdominal cavity in a position that can vary from person to person. Now, in research published in *Science Advances*, Prof. Lucio Frydman and his colleagues in the Department of Chemical and Biological Physics have shown how a new magnetic resonance imaging (MRI) approach could make pancreatic tumors "light up" in MRI scans, leading to earlier diagnosis and better treatment outcomes.

In collaboration with Prof. *Emeritus* Avigdor Scherz of the Department of Plant and Environmental Sciences, they used animal models of aggressive pancreatic cancer, and infused a chemically altered glucose tagged with a stable, nonradioactive form of hydrogen called deuterium. Infusion with this "deuterized" glucose prior to scanning improved on traditional MRI, which is not sensitive enough to highlight the presence and location of pancreatic cancer and may generate false negatives that do not always mean the patient is cancer-free.

The new method is based on the way cancer cells digest glucose: unlike in healthy cells, in cancer cells this metabolic process stops at an intermediate point to produce lactate, a molecule believed to play an important role in cancer cell division and proliferation. The scientists found a way to increase the ability of MRI to detect even small amounts of lactate by replacing natural glucose protons with deuterium, thus producing deuterized lactate more easily detected in an MRI scan.

This combined method enhanced sensitivity by more than an order of magnitude, enabling detection of even very tiny amounts of the altered lactate molecules. The altered lactate, in turn, reliably revealed the location of the previously undetectable pancreatic tumors.

Prof. Frydman is now preparing for clinical studies in human patients, to demonstrate that deuterium MRI could be a lifesaving modality for the early diagnosis of hard-to-image cancers. Based on further investigation of how deuterized glucose and other metabolites are absorbed by the cells of individual cancer patients, the new method may eventually help oncologists choose personalized treatments that will generate the best prognosis.

A standard MRI scan (left) failed to detect a pancreatic tumor, whereas the same tumor was clearly visible after an injection of chemically modified glucose (right). (*Images from the Frydman lab*)

LUCIO FRYDMAN IS SUPPORTED BY:

- The Rising Tide Foundation
- The Bertha and Isadore Gudelsky Professorial Chair

AVIGDOR SCHERZ IS SUPPORTED BY:

- The Thompson Family Foundation
- Sharon Zuckerman
- The Y. Leon Benoziyo Institute for Molecular Medicine

Surprising **new material** gets the lead out

Weizmann-crafted ceramic could replace lead-based electronic components

The electronics industry relies heavily on a special class of materials that change shape when you apply electricity or create electricity when you apply pressure. Because such materials are small and lightweight, they have become favorite components in the manufacture of the super-tiny electronic gadgets we love so well.

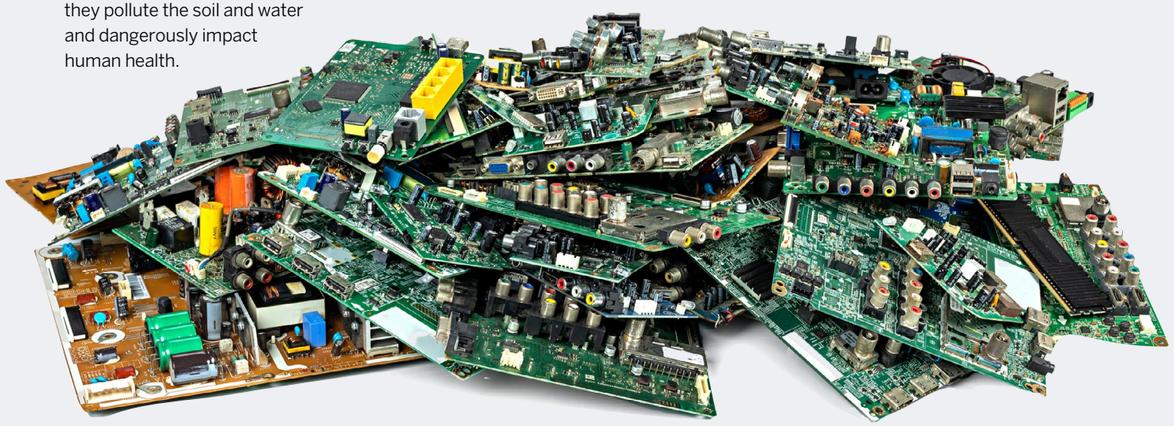
However, these materials—known as piezoelectrics or electrostrictors, depending on how they work—contain a dangerous ingredient: lead, the second most toxic metal after arsenic. Moreover, lead poisoning can last a long time; electrostrictive and piezoelectric components tend to be too small to be recycled, so tons of lead end up in landfills where, over many years, they pollute the soil and water and dangerously impact human health.

Now, a team led by Prof. Igor Lubomirsky in the Department of Molecular Chemistry and Materials Science has created a new, non-toxic ceramic that provides the functionality of the electronics industry's prized piezoelectric and electrostrictive materials. This ceramic, produced from cerium oxide laced with about 10 percent zirconium oxide, is cheap and simple to manufacture.

Most importantly, the new material may eventually allow electronics firms to develop a new generation of lead-free components, thereby reducing the poisonous lead pollution generated by electronic waste.

"For about 10 years we'd studied something considered utterly useless—we did it for the sake of scientific curiosity," Prof. Lubomirsky says.

"Now we've suddenly obtained a material with potential engineering applications. The way our ceramic changes shape when you apply voltage is on par with the best commercial materials. It also requires far less energy to do the same work. We still don't fully understand what happens in this material, but that's precisely what makes it interesting."



IGOR LUBOMIRSKY IS SUPPORTED BY:

- The Sagol Weizmann-MIT Bridge Program
- The Schwartz Reisman Collaborative Science Program
- The Rowland and Sylvia Schaefer Professorial Chair in Energy Research

Rebuilding life out of loss

On June 15, 2025, two ballistic missiles struck the Weizmann Institute of Science, destroying facilities across campus and abruptly halting decades of cutting-edge research. Yet even in the face of devastation, Weizmann scientists, staff, and students have been working relentlessly to heal and rebuild—carrying forward the Institute's enduring spirit of scientific exploration and resilience

By Yasmin DeRowe

In the early hours of Sunday, June 15, at around 2:45 a.m., the Weizmann Institute became the target of a ballistic missile strike launched by the Islamic Republic of Iran. Sirens sounded across the area, and many members of the Weizmann community were in their bomb shelters and safe rooms when the missiles hit—but nothing truly prepared them for what would follow. Within moments, flames engulfed laboratories and research spaces on campus, reducing decades of scientific work to rubble.

The Ullmann Building of Life Sciences had taken a direct hit, and the neighboring Wolfson Building for Biological Research was devasted from the shockwaves. Both buildings have been longstanding homes to pioneering cancer and immunology research, steeped in memory and meaning.

The Sussman Family Building for Environmental Sciences, one of the Institute's first "green" buildings, also sustained catastrophic damage.

Nearby, a second missile hit the André Deloro Building for Advanced and Intelligent Materials, an ultramodern chemistry facility in its final phase of construction after years of development.

In all, over 70 buildings across the campus were damaged, from shattered windows to total ruin. The scale of destruction was unprecedented in the Weizmann Institute's history.

Thankfully there were no casualties, but what became clear in the aftermath was not only the physical damage, but the human story—how scientists, students, and staff responded to an event that tested their resilience, as

individuals and as a community, like never before.

The night science came under fire

Prof. Tamar (Tami) Geiger of the Department of Molecular Cell Biology, whose cancer proteomics lab was housed in the Ullmann Building, sheltered on campus with her young son in their apartment's safe room when the missiles struck. Just two weeks earlier, they had moved from

"Just as we were about to harvest the fruits of four years of intense work, everything was wiped out overnight," says **Prof. Tami Geiger**.

a different neighborhood on campus, which ended up sustaining significant damage in the attack.

As messages and images circulated, she realized Ullmann was ablaze. Even more alarming, one of her students, a German doctoral candidate, had been working overnight inside. He was rescued within a few hours by the IDF's Home Front Command from a safe room, suffering only mild smoke inhalation. Still, the thought of what might have happened weighed heavily.

When the fires were extinguished a day later, the devastation was clear: Prof. Geiger's lab was destroyed. Machinery worth millions of dollars, including a mass spectrometer upgraded only weeks earlier, was lost, along with all her clinical samples.

While most samples can eventually be re-sent by clinicians, six were irreplaceable, among them one received just days before the attack from a child with a rare brain tumor.

Enter emergency mode

PhD student Ella Herzog from Dr. Rony Dahan's group in the Department of Systems Immunology, was at her home in Moshav Ganot, about 15 kilometers north of Rehovot, when she awoke to explosions. She went back to bed, only to learn by WhatsApp later that morning that the Wolfson Building, where her lab was located, was in ruins.

At first, she thought the messages were a cruel joke, until she saw a video of the flames. At the time of the attack, she was midway through a pivotal preclinical trial, testing antibodies she had developed over five years.

Rushing to campus, Ella joined colleagues hauling freezer shelves down three flights of stairs, each load carried by hand, and then climbing back up again. "My legs, which are not in the best condition on normal days, were screaming in pain, but I just couldn't stop," she recalls.

Dr. Yoseph (Sefi) Addadi, head of the de Picciotto Cancer Cell Observatory in Memory of Wolfgang and Ruth Lesser, a core facility of the Moross Integrated Cancer Center, arrived on campus at around seven in the morning after a sleepless night. He and many others worked to salvage what they could from the still-burning Ullmann Building, including samples, freezers, and personal mementos.

The de Picciotto Observatory, established a decade ago but housed in Ullmann for only the past five years, had just begun to hit its full stride. Its imaging suites, containing advanced analysis stations, microscopy

In the days that followed the attack, **Prof. Dan Yakir** wandered the ruins retrieving old photographs and mementos—fragments that may not have carried scientific value, but embodied a lifetime of work.

systems, and a dedicated sample-prep lab, were decimated. From all that equipment, only a few computers survived, enough to help the image-analysis team resume work quickly, but still a stark reminder of how much was lost.

As scientists and students rushed into blasted buildings, the administration activated emergency protocols to keep people safe and ensure a coordinated campus-wide response. The top priorities were safety and stabilization: clearing debris, securing hazardous and sensitive materials, and assessing structural damage. Engineers and project managers inspected each building while contractors cleared them for entry.

Only after the campus was declared free of immediate dangers, nearly two weeks later, were researchers formally permitted to return.

By then, some 52 labs—representing nearly one-fifth of all scientific operations—had been brought to a standstill. Some groups began relocating into temporary facilities on and off campus and tried to resume their work in whatever capacity was possible.

Science suspended

The attack shattered not only buildings and equipment but also years of work and the sense of continuity that defines a scientific life. Having spent over three decades at Weizmann, Prof. Dan Yakir—2019 Israel Prize laureate and head of the Ecophysiology Group in the Department of Earth and Planetary Sciences—experienced the shock with deep perspective.

His lab in the Sussman Building was destroyed by the blast, and in the days that followed he wandered the ruins, retrieving old photographs and mementos he had brought back for students, and even the original hard-copy proposal for the research site he established in the Yatir Forest in 2000. These fragments may not have carried scientific value, but they embodied a lifetime of work. "It almost felt like a purification ritual," he says.

While Prof. Yakir grieved for a lab built over decades, Prof. Geiger faced the loss of work that had recently reached critical momentum. Since joining Weizmann in 2021, her group had established advanced proteomic methods that were beginning to yield meaningful results—progress cut short when the attack struck. About a week later, one of their papers was published and another accepted, yet the protein analysis methods behind them relied on instruments that no longer existed.

"Just as we were about to harvest the fruits of four years of intense work, everything was wiped out overnight," she reflects.

For Ella, the attack brought an abrupt end to her important trial. After years of effort, the experiment was forced to a halt, a devastating blow that left her reeling. "Someone asked me, is research really your life? And I said yes—because it is," she recalls. Now working in a temporary lab in the Nella and Leon Benoziyo Building for Biological Sciences, she admits the new space "is not quite home yet, but hopefully will be soon."

Dr. Daniela Novick, a senior research fellow who has spent 50 years at the Weizmann Institute, is widely respected for her contributions to immunology. Working closely with colleagues such as Profs. Michel Revel and Menachem Rubinstein, her research helped lay the foundation for drug therapies that today improve the lives of millions worldwide.

A daughter of Holocaust survivors, she began her doctorate in the Wolfson Building in the 1970s under Prof. Sara Fuchs, where she studied acetylcholine receptors, one of the nervous system's main signal-receiving proteins and published her early work in *Nature*. Although much of Dr. Novick's later career unfolded elsewhere

"Normally, as foreigners in Israel, we are not the target," says PhD student **Felix Ribuot-Hirsch**. "But this time, the missiles were aimed at us, the scientists of Weizmann. For the first time, our very identity came under attack—and was hit. Still, being here, we are proud to continue our work."

on campus, the Wolfson Building remained a place of deep personal connection for her.

"Wolfson was home," she says. "To see it in ruins was like losing a part of myself." In those first days, the sight reopened a vulnerability she had not felt since the First Gulf War (in 1991), when ballistic missiles fired by Iraq struck at the heart of civilian Israel.

Spirit of endurance

From the wreckage, the first signs of recovery began to emerge. Within days, the de Picciotto Cancer Cell Observatory's image-analysis operations were back online, thanks to the unit's IT expert and infrastructure support from colleagues across campus

The optical imaging unit is now housed in a temporary space in the Dwek Campus Center, where new instruments are expected to be installed in the coming months. To provide continuity, the team has repurposed other devices on campus, refining their use and training researchers to take fuller advantage of them. "We lost our equipment, but not our knowledge or our people," Dr. Addadi says.

That same spirit carried throughout campus. Thanks to her earlier efforts to recover materials from the wreckage, and no small measure of luck, most of Ella's antibodies were later confirmed intact. With the help of Danyel Biotech—a private company located adjacent to the Weizmann campus, which offered services and space free of charge to the Dahan lab—she was provided with a foundation to rebuild her research in immunotherapy and regain hope for the future.

In Prof. Yakir's case, continuity was also made possible by a mix

of effort and chance. His station in the Yatir Forest, on the edge of the Negev Desert, remained untouched, and his mobile lab, which happened to be parked elsewhere on campus rather than outside Sussman as it usually was, also survived. A laser spectrometer retrieved from

"Wolfson was home," **Dr. Daniela Novick** shares. "To see it in ruins was like losing a part of myself."

the wreckage was repaired and reinstalled in the Perlman Chemical Sciences Building, allowing one of Prof. Yakir's PhD students to continue her long-standing project in ecophysiology, examining how living things adapt to their environment. The resumption of her research was a source of relief, which Prof. Yakir describes with quiet gratitude.

For Dr. Novick, who was born in Poland in the shadow of Auschwitz, continuity also carries a generational weight. To her, science has always been a way of building life out of loss, and the Weizmann Institute's resilience in 2025 is not only about salvaged samples or restored lab spaces, but about the enduring spirit of inquiry that connects past, present, and future.

Resilience rooted in community

The strength of the Weizmann community stems from its longstanding culture of collaboration, reinforced after the attack by newfound depths of solidarity.

At the Ye'arim Hotel, on Kibbutz Ma'ale HaHamisha in the Jerusalem Hills, where hundreds of the Institute's international students and families were evacuated, bonds were forged under extraordinary circumstances.

Felix Ribuot-Hirsch, a doctoral student from Paris under the supervision of Profs. Ofer Firstenberg and Nir Davidson in the Department of Physics of Complex Systems, recalls the atmosphere when he first arrived: "I was met with blank stares, people still in utter shock."

Yet within days, a spirit of care and kinship steadily grew. Together, the Institute and the kibbutz residents created a framework of support, from practical help such as laundry

Now working in a temporary lab in another building, **Ella Herzog** admits the new space "is not quite home yet but hopefully will be soon."

services to talks and activities that offered a sense of normalcy. The stay created unexpected connections, as students shared shelters during alarms, swam, hiked, organized impromptu seminars, and engaged in cross-faculty scientific discussions that likely would not have happened on campus. When one international student defended his thesis via Zoom, the newfound community marked the achievement with a celebration at the

"We lost our equipment, but not our knowledge or our people," says **Dr. Sefi Addadi**.

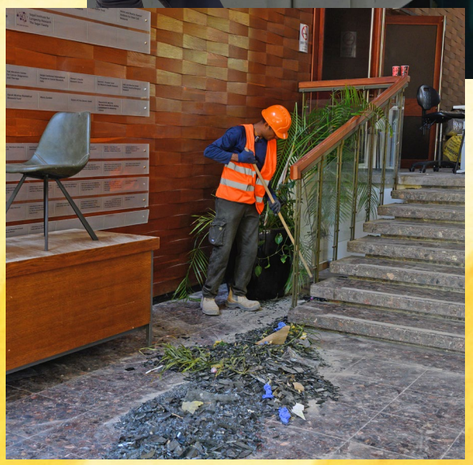
hotel. Felix even organized a movie club to lift peoples' spirits, a gesture that helped replace displacement with togetherness.

"Normally, as foreigners in Israel, we are not the target," he reflects. "But this time, the missiles were aimed at us, the scientists of Weizmann. For the first time, our very identity came under attack—and was hit. Still, being here, we are proud to continue our work."

On campus, the same solidarity has defined the weeks and months that have followed. Dr. Novick describes mutual support as the Institute's greatest strength: "That spirit is what will raise the Institute from the rubble." Dr. Addadi speaks of colleagues across faculties who stepped in, sharing expertise, infrastructure, and time to get his unit operating again. Prof. Geiger emphasizes how her department head and peers ensured priorities were handled fairly, with no pettiness, only generosity.

From crisis to opportunity

Recovery will take years. The cost of reconstruction is estimated at $500 million, divided between rebuilding infrastructure and replacing destroyed equipment. The Israeli government has provided some initial funding, but



Picking up the pieces: Weizmann scientists, students, and staff clean up and salvage what they can in and around the Wolfson Building for Biological Research, including scientific equipment, biological samples, and plant specimens.

KEEP CALM AND CARRY OUT THE PLAN

An interview with Alon Weingarten, Vice President for Administration

You received word of the missile strike only moments before it happened. What was your first thought?

My first concern was the safety of our people. I was at home in Kfar Saba when I received a message that missiles were incoming. By the time I reached Weizmann, emergency services were already on site. From that moment, the administration's role was clear: first safety, then continuity—evacuating hazards, stabilizing infrastructure, and only then bringing people back to work, even in provisional spaces.

How did you and your team manage such a complex response across the entire campus?

We divided the work systematically. Each project manager from the Institute's Construction and Engineering Division was assigned a set of buildings to inspect and evaluate. Their findings were fed into a GIS [geographic information system]-based map with real-time updates, which became the basis for twice-daily status meetings with all the infrastructure heads. That system gave us a clear picture of the damage and allowed us to coordinate progress quickly and effectively.

What contingency plans were in place before June 15, and how effective were they?

We had spent years developing protocols and running drills for different scenarios. After October 2023, we expanded those exercises to include coordination with the IDF's Home Front Command, even giving them a dedicated space on campus for safety procedures. On June 15 they were already in position, which proved crucial. Just two days earlier, as the escalation with Iran began, we had moved our 24/7 security operations room into a fortified site. That decision alone allowed us to coordinate the response effectively when the strike came.

What were some of the hardest decisions you had to make in those early days?

Knowing that 52 labs and nearly 700 people were suddenly without workspace was daunting. We had to balance urgency with safety, and resources were stretched thin. My approach was to project calm and control—people told me, "The way you're handling this gives us confidence." That meant a great deal to me.

How did the "broken windows" theory apply to your response approach?

Visible damage invites further disorder. So, we moved quickly to clean the campus—clearing glass from the roads, removing debris from the lawns, and fencing off the ruined buildings. Broken windows were boarded up, and we managed to source glass and aluminum despite extreme demand. Within a week, about 30 buildings were back in use, even if many repairs were temporary.

The financial toll is staggering. What is the estimated scope?

The damage is around $500 million, roughly half in construction costs and half in equipment. The government has provided initial financial coverage, but it's only a fraction of what is needed. We are working to have the Institute declared as a national strategic asset, which would ensure stronger long-term support [from the state].

> "The administration's role was clear: **first safety**, then continuity."

Looking back, what stands out to you the most?

The resilience and cooperation of the community. Researchers, staff, and students all went above and beyond what was expected. I also want to commend individuals like Arik Shabat, who coordinated the evacuation of samples with the Home Front Command, and Hagai Friedman, who ensured the welfare of our veterinary facilities under very difficult conditions, both from the Construction and Engineering Division. Their dedication, and that of many others, continues to carry us through.

What is your outlook for the future of Weizmann?

I'm deeply optimistic. The resilience and dedication I've seen across campus remind me every day what makes this place unique. With that spirit, I'm certain the Institute will not only recover but continue to inspire and lead in science for years to come.

(Opposite page and above) Vice President for Administration Alon Weingarten at the site of the Iranian missile attack with visiting government and military officials, and with Weizmann President Prof. Alon Chen (bottom).

much more will be needed to fully restore operations and ensure a strong future.

For scientists like Dr. Addadi, the crisis has become an opportunity: plans are underway to acquire next-generation imaging systems that will expand capabilities far beyond what was lost. For Prof. Yakir, the final years of his career will now be spent in a more modest lab in the Perlman Building. Yet he continues to look forward to the future—especially to the eventual inauguration of the André Deloro Building for Advanced and Intelligent Materials, whose scientific planning committee he has led for more than a decade.

Prof. Geiger is slowly rebuilding, convinced that renewal is possible even if the scars remain. Ella, though still distraught, is forging ahead with plans for new trials. And Dr. Novick holds steady in her belief that Weizmann's true strength lies not in buildings but in its people and their pursuit of knowledge.

For Felix, who like other international students was offered a flight home (to France) at the Institute's expense, the choice was to stay. Convinced that the worst was already behind them, he chose to focus on continuing his research—reflecting both his professional and personal commitment as a Weizmann student.

Now, he and his colleagues and friends are organizing a gathering to thank the Weizmann staff and administration for the extraordinary care extended to the international community during the war.

From individual acts of gratitude to collective resolve, the Weizmann Institute of Science showed that even profound loss and shocking violence could not deter its purpose. The brutal attack of June 15 was an attempt to extinguish light and enlightenment, to break the spirit of an institution built on discovery and the betterment of humanity. But, as this crisis has shown, that spirit cannot be broken. When science is attacked, Weizmann rebuilds—together.

TAMI GEIGER IS SUPPORTED BY:

- The Applebaum Foundation
- The EKARD Institute for Cancer Diagnosis Research
- The Vera and John Schwartz Family Center for Metabolic Biology

RONY DAHAN IS SUPPORTED BY:

- The Dwek Institute for Cancer Therapy Research
- The Rina Gudinski Career Development Chair

DAN YAKIR IS SUPPORTED BY:

- The Hilda and Cecil Lewis Professorial Chair

THE WEIZMANN INSTITUTE OF SCIENCE GRATEFULLY ACKNOWLEDGES THE GENEROUS SUPPORTERS OF THE EMERGENCY AND RECOVERY FUND

A lighthouse for learning

Ruth Shoham brings personal experience, national vision, and bold plans to her new role at the Davidson Institute of Science Education

In September 2024, Ruth Shoham stepped into her role as the CEO of the Davidson Institute of Science Education, the educational arm of the Weizmann Institute of Science. With an expansive background, ranging from the military and cybersecurity to academia, Ms. Shoham is bringing a new perspective, experience, and mission to advance science education.

In this conversation, she shares her journey, the new direction she has planned for the Davidson Institute, and her vision for making science education more accessible, innovative, and impactful across Israel, especially for the social and geographical periphery.

Can you describe the new vision for the Davidson Institute?

Davidson is entering a new phase. Our vision is to position the Institute as Israel's central hub for science education—one that will have a clear national impact.

After completing a deep strategic review—where we reassessed our structures, reviewed the external educational landscape, and honed our priorities—we are now focusing on building partnerships with leading institutions and local authorities to expand access to high-quality science education across Israel: to the general public through the Clore Garden of Science, to science enthusiasts and gifted students, and to the educational workforce, all aligned with the Weizmann Institute's flagship projects.

What specific changes does this vision call for?

We are working on deepening and leveraging our connection with the Weizmann Institute, including a focus on the interdisciplinary areas in which the Institute excels—astrophysics, sustainability and earth sciences, neuroscience, medicine—all integrated with AI as a research tool.

In parallel, we are continuing to offer dedicated pathways for Arabic speakers by expanding bilingual and culturally adapted science programs, ensuring full accessibility to our content for Israel's Arab sector and promoting coexistence in the country. We are also developing new ways to promote women in science, using the rise of artificial intelligence as an opportunity to shape a field that can grow on equal ground and with fewer built-in biases.

Can you share some examples of initiatives already underway?

We recently established the Pi Center, a professional hub created to meet the evolving challenges of science education in Israel. Designed as a national center for innovation and leadership, the Pi Center develops new models and digital tools for students, educators, and the public, driving initiatives such as promoting girls in STEM and building partnerships with municipalities across Israel's periphery.

"Davidson is uniquely positioned to ensure that a child in the Negev, a teacher in the Galilee, a parent in Tel Aviv, and a science enthusiast in a remote village all receive the same uncompromising quality of science education."

We've invested extensively in educational content at the Clore Garden of Science to ensure that visitors have meaningful scientific experiences during their visit.

Our advanced science matriculation programs are at the core of our efforts to expand excellence and inclusion in science education. We are developing an ambitious initiative to significantly increase the number of students completing matriculation exams, with a focus on reaching students in the social and geographic periphery, and on increasing participation among girls.

Having grown up in the periphery myself and having devoted much of my career to advancing women in leadership, I see this as both a personal and national mission. The AI revolution and the emergence of new scientific fields provide a unique opportunity for girls to enter these areas before gender stereotypes take hold. Ultimately, our goal is to expand female representation in AI training programs and strengthen their presence in the military, academia, and industry.

Davidson also trains science educators across Israel on how to work with youth in vulnerable situations, teaching them to combine hands-on scientific learning with emotional support and mentorship.

What does a municipal partnership look like?

We offer municipalities a holistic program that starts with identifying their community's needs, designing a tailored model for the city or town, training staff, and creating a growth pathway for diverse audiences, students, and teachers. The goal is to establish solid long-term partnerships with municipalities to bring world-class science learning to every community.

What's your vision for the future of science education in Israel, and Davidson's role in it?

I see the Davidson Institute as a lighthouse for science education in Israel. Our holistic model is rare in Israel but aligned with top institutions abroad. Davidson is uniquely positioned to ensure that a child in the Negev, a teacher in the Galilee, a parent in Tel Aviv, and a science enthusiast in a remote village all receive the same uncompromising quality of science education.

What content areas are you focusing on?

We're aligned with some of Weizmann's main scientific areas: astrophysics, brain research, and sustainability. We're also developing new programs in computational medicine, in alignment with the Weizmann Institute's new physician-scientist training program [the MD-PhD program in honor of Miriam and Aaron Gutwirth].

Can you tell us about your professional background and how it prepared you for this role?

I began in mathematics and operations research, serving in the IDF's Planning Directorate and Unit 8200, where I led major strategic efforts. I later established the Center of Excellence of IBM worldwide for cyber research, and the technology for the Israeli government's national cyber command center, then worked with Start-Up Nation Central, and served as deputy head of the National Cyber Directorate. Most recently, I served as CEO of the Open University of Israel, where I led a large-scale transformation during the pandemic.

Each of these roles has shaped how I approach complex systems, innovation, and education.

How do these experiences come together in your role at Davidson?

Davidson sits at the intersection of science, education, and management—exactly the combination I've worked in throughout my career. Though I am not a scientist, I bring academic curiosity, a strong understanding of the education system, and leadership experience to help guide Davidson through meaningful change.

Promoting women in technology has been an important part of my professional journey, and I remain active in several forums that support this mission.

How do you balance Davidson's tradition with innovation?

We're proud of our 25-year legacy, the foundation for everything we're building now. Our team is outstanding, and with their talent, we're ready to take a bold leap forward.

Andi and Larry Wolfe are enabling lasting scientific bonds and new frontiers of exploration

Champions of collaboration

By Tamar Morad

There may be nothing that Andi and Larry Wolfe relish more than bringing together talented people to enable new ideas to take root and partnerships to flourish.

"If you don't collaborate, you aren't going to get anywhere," says Andi. "And if you do—it's amazing what you can achieve."

The Michigan couple attribute that proclivity to Andi's father, the late D. Dan Kahn, whose love and admiration for his late wife, Betty, led him to establish a unique and thriving binational scientific collaboration in her memory. Today, the Wolfes, who divide their time between their homes in Bloomfield Hills, Michigan, and Palm Beach, Florida, have taken it even further. They have deepened the family tradition of philanthropy and volunteer leadership, building personal and professional connections among scientists and physicians, and nurturing novel areas of research. Larry is a member of the International Board of the Weizmann Institute and a member of the Board of Directors of the American Committee for the Weizmann Institute of Science.

The impact of the Kahn and Wolfe family vision and generosity is deeply felt at the Weizmann Institute. The Michigan-Israel Partnership for Research and Education, launched and supported by the D. Dan and Betty Kahn Foundation, is a tripartite scientific relationship between the University of Michigan, the Technion-Israel Institute of Technology, and the Weizmann Institute which is reaping wide rewards in new knowledge and breakthrough discovery—and has brokered countless ties between scientists and physicians.

The Wolfes' most recent gift to the Weizmann Institute, establishing the Andrea L. and Lawrence A. Wolfe Family Center for Research on Neuroimmunology and Neuromodulation, has laid the groundwork for a novel and highly promising field of research within neuroscience. The new center is a pillar of the Azrieli Institute for Brain and Neural Sciences, a flagship project that is solidifying Weizmann's role as a world leader in brain science.

Science doesn't stop

With Israel's war against regional enemies following the October 7 attacks, and the concern over recent attempts to marginalize Israeli academia, cross-border collaborations are more vital than ever—a point not lost on Andi and Larry.

"We think that collaboration between US and Israeli institutions helps Israeli science get stronger and stronger, and ensures that exceptional American scientists benefit from Israeli science," says Larry. "At challenging times for Israel, this connectedness has particularly high value on a personal level and also means that regardless of the circumstances, science won't stop."

"Dan Kahn had the brilliant idea to give Israeli and American scientists and physicians the means to develop research partnerships, and Andi and Larry Wolfe picked up the torch and have been championing this mission ever since, knowing that collaboration is a foundation of scientific progress," says Prof. Alon Chen, President of the Weizmann Institute.

"If you don't collaborate, you aren't going to get anywhere," says Andi Wolfe. "And if you do—it's amazing what you can achieve."

Larry and Andi Wolfe with Weizmann President Prof. Alon Chen (center) at the Institute's Global Gathering in Chicago, May 2025.

"As it has grown and blossomed, this phenomenal collaboration has become a gold standard for international scientific partnerships. But it's more than that: Andi and Larry have personally moved it forward every step of the way, forging bonds with the scientists and following the science with great enthusiasm."

The Wolfes' establishment of the new neuroscience center reflects similar creativity, Prof. Chen adds. "Their natural instinct for fusing different fields and connecting people is also at the heart of their generous support of a very important area of neuroscience—the interface between immunity and the brain. As a neuroscientist, I can say that there's nothing more exciting than watching an area of brain research take root and begin to bear fruit. I'm grateful for Andi and Larry's generosity, their leadership into new frontiers, and their commitment to building networks between three world-leading institutions."

Realizing a vision

Andi and Larry Wolfe first became engaged with the Weizmann Institute in 2004, on a mission to Israel. Andi's mother, Betty, was suffering from a blood disease and Andi was interested in seeking solutions, even as time was running out. She learned about Weizmann's work in stem cell science and was intrigued.

Betty passed away later that year. "My father-in-law immediately felt the need to do things in life before it's too late. He also wanted to express appreciation for the University of Michigan Health System which had taken such good care of her," says Larry. "But more than that, he loved the people he knew at the University of Michigan, and at the Technion, and wanted to bring all these brilliant people together. After much thought and discussion, he formulated a program to fund a biomedical collaboration between Michigan and the Technion."

"Collaboration between US and Israeli institutions helps Israeli science get stronger and stronger, and ensures that exceptional American scientists benefit from Israeli science," Larry Wolfe shares.

The concept took off, and in 2011 the two-way partnership began with two projects on cardiovascular disease and engineering. A central component is an endowed fund for a Kahn Symposium, the first of which was held that year and subsequently has been held once every 18 months. Its initial locations were alternately Michigan and Haifa; for many of the Michigan faculty, it was their first visit to Israel. Rambam Health Care Campus, the academic medical center affiliated with the Technion, was part of the equation.

Dan opened the first symposium with stirring remarks in front of more than 50 attendees. "I had never seen him so emotional, being able to forge a bond between great institutions in the US and Israel," recalls Larry. "He was thrilled that his vision was realized. The Kahn Symposium was a highlight of his life."

Only six weeks later, in 2012, Dan passed away. But the wheels had been set in motion. Larry replaced Dan as Kahn Foundation President, and he and Andi knew that something special had started and it was now their privilege to continue to build upon it.

The next year, the Weizmann Institute joined the partnership. With time and more scientific partners, the focus expanded to include cancer, childhood diseases, neuroscience, and more; engineering projects that originated at the Technion also played a starring role. With a critical mass of projects underway, it was formally named the Michigan-Israel Partnership for Research and Education (MIP). The first Kahn Symposium on the Weizmann Institute campus took place in 2015.

Meanwhile, more projects were ripening to the point that they were winning grant funding from the National Institutes of Health and the US-Israel Binational Science Foundation. Eventually, such "extramural" funding began to surpass the philanthropic investment in dollar terms—an extraordinary achievement. The snowballing success inspired other donors to give to the partnership, expanding its boundaries even more.

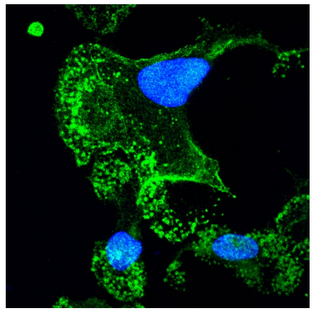
Robotics for farmers

In 2018, the Wolfes made a new gift to the MIP, split between the three institutions, which further expanded the partnership and launched two multi-year "mega projects" involving multiple scientists from each institution. The gift also paved the way for future symposia, more grants for joint research projects, travel funding, poster sessions, and seed money for students and postdoctoral fellows to join the symposia.

The first "mega project," in robotics and autonomous systems for farming, which wrapped up in 2019, involved experts from the engineering schools at Michigan and the Technion with Weizmann's Profs. Shimon Ullman, Ronen Basri, and Michal Irani of the Department

of Computer Science and Applied Mathematics. It advanced research in exoskeleton designs to enable aging and disabled farmers to continue to work productively, and, more broadly, led to new robotic systems to assist in farming tasks.

The second project, in precision health for aging, was completed in 2023 and involved Weizmann scientists Profs. Amos Tanay, Ido Amit, Liran Shlush, and Roi Avraham. Leveraging clinical data from the US, UK, and Israel, the scientists used tools in epidemiology, immunology, and computational biology to develop risk models for disease in order to foster early-intervention strategies.



Microglia (green) that were "matured" in the lab from stem cells of ALS patients. (*Image from the Hornstein lab*)

Typically, at least 150 scientists and doctors attend the Kahn Symposia, with some years as many as 270—enabling countless permutations of exchanges on ideas, updates on existing projects, and brainstorming future ones. In any given year, about eight funded projects are in various stages of advancement; to date, about 100 such projects have been funded, many of which have emerged from symposia exchanges and lectures.

"It was a great pleasure attending the symposium," says Prof. Roee Ozeri, Vice President for Development and Communications at Weizmann, who joined the 12th Kahn Symposium in 2024 in Traverse City, Michigan. "The symposium was living evidence that even in this extremely challenging time of war and conflict, scientific collaboration has not slowed down but actually has accelerated, and the strength of the partnership between Michigan and Israeli scientists has only continued to grow. At a time like this, it was truly heartwarming to witness."

"The gift [from Andi and Larry Wolfe] holds immense value in advancing brain research and seeking cures for late-life diseases, including neurodegeneration," says Prof. Eran Hornstein, the Center's head. "The support will enhance our exploration of neuroimmunology, a critical area that bridges our knowledge of the immune system and its impact on brain health."

Catalyst for cooperation

The projects are intensely creative. Take the one that explores the use of silk-based nanocomposites for controlled drug release—a project co-led by Dr. Ulyana Shimanovich of the Department of Molecular Chemistry and Materials Science. Or the one co-led by Prof. Zvulun Elazar of the Department of Biomolecular Sciences to develop a new method to speed up autophagy, the body's natural method of cleaning up dead or damaged cells so that healthy cells can flourish.

"Everyone comes way from the symposia on a personal and professional high—just as my father-in-law envisioned," says Larry. "Many top-down institutional collaborations don't necessarily work because you can't tell scientists to work together if they don't naturally gravitate to working together. But these three institutions are all outstanding and the partnerships emerge from the ground-up: the symposium offers the framework, and for us it's just a matter of sitting back and watching it all come together. Great gains have been made throughout the years that might not have been made independently."

Says Andi: "I go to almost every lecture, and I find some of them extremely fascinating. I take notes. I often come away hooked on a particular subject and wanting to learn more. But most importantly, the meetings allow the participants to become friends, not competitors. They trade emails, texts, phone calls, and papers and ideas. It's exactly the catalyst that my dad wanted."

Prof. David J. Pinsky, MD, of the University of Michigan, who has served as the U-M head since the program's inception, says, "Andi and Larry Wolfe are not only terrific people, but truly visionary philanthropists. Their generosity is as principled as it is uplifting, and they are giving of their personal time, energy, and resources to meaningfully change the world. I do know that they hold a special place in their hearts for the Weizmann Institute of Science as a class-leading institution, and in partnership with the Technion and the University of Michigan, are making the world a better place through scientific discovery and interpersonal connections."

Volunteer engagement

Andi and Larry have been active in the Detroit Jewish community for a number of years and have served

The brain-immunity interface

The Andrea L. and Lawrence A. Wolfe Family Center for Research on Neuroimmunology and Neuromodulation is applying novel technologies to the study of the immune modulation of the brain and neural system. The gift also funds a Research Fellow Chair in the field.

This field has been thrown into focus thanks to growing understanding of the interface between the brain and immunity. Immune system dysfunction is associated with the development of neurodegenerative diseases, and chronic inflammation may contribute to chronic fatigue and mental confusion. Brain inflammation related to disease, injury, and degeneration can be life-threatening, and autoimmune disorders that affect the nervous system can pose lifelong challenges. This includes diseases like multiple sclerosis and arthritis, where Weizmann scientists have done groundbreaking work that has led to blockbuster drugs.

But the relationship between the brain and the immune system is unique, defying many rules that apply elsewhere in the body. For one, the body's immune force includes powerful T cells and B cells, but the blood-brain barrier effectively bars their entry to the brain. The brain has its own "immune force" comprised of microglia cells.

Brain-immune interactions may also be deleterious, initiating or exacerbating diseases, while at other times the connection is compensatory and protective—even vital. This all means that knowing how to modulate the brain-immunity interface is of critical importance and could serve as a driver for the development of effective therapies.

The Wolfe Center, in the Azrieli Institute for Brain and Neural Sciences, supports the use of innovative tools and technologies to study the interactions between neurons, neural tissue, and immune cells. As such, it is a nexus of collaboration between scientists from various disciplines, from immunology to neuroscience and beyond.

"Weizmann neuroscientists are profoundly grateful for the generous academic donation of Andi and Larry Wolfe," says Prof. Eran Hornstein of the Department of Molecular Genetics, who heads the Center. "The gift holds immense value in advancing brain research and seeking cures for late-life diseases, including neurodegeneration. This funding will significantly propel our understanding and application of induced pluripotent stem cells (iPSCs), offering new hope for regenerative medicine and therapeutic interventions.

"Additionally, the support will enhance our exploration of neuroimmunology, a critical area that bridges our knowledge of the immune system and its impact on brain health. The funding promises to unlock new frontiers in neuroscience, paving the way for groundbreaking treatments and improved quality of life for countless individuals affected by neurodegenerative diseases."

Prof. Hornstein's research focuses on the molecular mechanisms that drive ALS, a devastating neurodegenerative disease (also known as Lou Gehrig's disease). His lab has demonstrated that the activity of a previously unknown immune pathway in the brain could protect against ALS. He is investigating the crosstalk between microglia and neurons, which die in ALS, through the study of iPSCs—cells reprogrammed back into an embryonic-like pluripotent state that enables the development of an unlimited source of any type of human cell.

Other studies funded by the Wolfe Center are also utilizing induced pluripotent stem cells. Prof. Orly Reiner, who has a joint appointment in the departments of Molecular Genetics and Molecular Neuroscience, is using these cells to create brain organoids—artificially grown tissue that mimics the human brain—in order to study brain malformation. She recently identified a mutation in a particular gene, CEP55, that results in hydranencephaly, a condition wherein the brain's neocortex fails to form during embryonic development. With support from the Wolfe Center, her lab is now deploying innovative tools to study CEP55 during brain development.

In another study supported by the Center, Weizmann scientists are investigating the role of microglia in how the brain remains resilient to stress. This collaboration, between Prof. Gil Levkowitz of the departments of Molecular Cell Biology and Molecular Neuroscience and Prof. Ido Amit of the Department of Systems Immunology, could potentially lead to novel treatments for mental illness.

One of Andi's interests is inflammation and its role in health and disease, and how inflammation and immunity affect the brain, specifically. In making the gift to establish the Center, she says, "We wanted to expedite research in an area we believe in, and we felt really good about the scientists behind this effort—it's about trust in knowing that they are truly at the cutting edge. So I think the potential is huge."

"[The Wolfes'] natural instinct for fusing different fields and connecting people is also at the heart of their generous support of a very important area of neuroscience—the interface between immunity and the brain," says Weizmann President Prof. Alon Chen.

in many leadership roles. Andi's involvement includes roles as past President of the Detroit Region of Women's American ORT, as a member of the International Board of Governors of the Technion, and a member of the Board of Directors of the American Technion Society. Additionally, she sits on the Board of Hebrew Free Loan-Detroit, the Jewish Women's Foundation of Metropolitan Detroit, Jewish Family Service, the University of Michigan Rogel Cancer Center, and other organizations.

Larry is President of the Detroit Jewish Community Center, Adat Shalom Synagogue, and the Jewish Federation of Metropolitan Detroit, and he is General Chairman of State of Israel Bonds/Detroit. He continues his involvement with World ORT and with the University of Michigan Medicine Advisory Group.

IDO AMIT IS SUPPORTED BY:

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- The Redhill Foundation – Sam and Jean Rothberg Charitable Trust
- The Applebaum Foundation Research Fellow Chair funds a Staff Scientist in Prof. Shlush's lab
- Prof. Shlush is Senior Associate to Dean and Head of the Weizmann Institute of Science MD-PhD Program in honor of Miriam and Aaron Gutwirth

AMOS TANAY IS SUPPORTED BY:

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- The Moross Integrated Cancer Center

Envisioning the future of AI

A landmark gift from Ellen and Harvey Knell will establish the Knell Family Institute for Artificial Intelligence

A magnanimous commitment from Dr. Ellen R. Knell and Harvey G. Knell—past recipients of the PhD *honoris causa* and longtime, devoted friends of the Weizmann Institute—is poised to transform computer science and mathematics.

The Knells' tremendous new gift, made via the Harvey and Ellen Knell Foundation, establishes the Knell Family Institute for Artificial Intelligence, which will support campus-wide efforts in fundamental AI research and promote the integration of AI tools, applications, and techniques into the studies taking place in labs of every discipline across Weizmann.

The initiative will find its physical expression in a new entrance to the Weizmann campus from the north, to be called the Knell Family Gate.

The Knell Family Institute will be devoted to helping researchers and students find new and better ways to apply AI to scientific challenges. Under the direction of Israel Prize laureate Prof. Shimon Ullman—a global authority on AI and computer vision—this framework will turbo-charge the pace of discovery while laying critical groundwork for AI ethics, creating a holistic strategy that allows AI to best serve humanity, now and in the future.

"'Science for the Future of Humanity' is a powerful concept—and the guiding principle of the Weizmann Institute," share Ellen and Harvey Knell. "Artificial intelligence holds tremendous potential to accelerate and enhance scientific discovery. We knew this was exactly the kind of transformative initiative the Knell Family would want to support in a meaningful way."

"The dawn of AI presents the greatest opportunity since the industrial revolution to create the kind of seismic change that can touch the lives of virtually everyone on the planet," adds Prof. Roee Ozeri, Vice President for Development and Communications, whose physics group built Israel's first quantum computer. "Thanks to the leadership of Ellen and Harvey Knell, Weizmann scientists will be empowered to take their place as AI pioneers in this extraordinary point in history."

The Knells have been generous supporters of the Weizmann Institute for decades, with major contributions that have funded the Knell Family Center for Microbiology and the Knell Family Professorial Chair.

They are also active leaders at the American Committee for the Weizmann Institute of Science, where Harvey Knell currently serves as National Chair. Most recently, Harvey and Ellen have stepped up to serve as Co-Chairs of the Institute's global campaign, Empower Tomorrow.

(From left) Harvey Knell, Dr. Ellen Knell, and Weizmann President Prof. Alon Chen. (*Photo by Mike Dennis*)

Prof. Jehuda Reinharz, President of the Jack, Joseph and Morton Mandel Foundation

Restoring what was lost

Momentous gift from the **Jack, Joseph and Morton Mandel Foundation** paves the way for recovery and renewal across the Weizmann campus

The Jack, Joseph and Morton Mandel Foundation of the United States has made a leadership gift to rebuild the Weizmann Institute of Science after the June 15 missile strike, pledging a magnanimous donation to the Emergency and Recovery Fund.

"Since 1973, more than 50 years ago, I have been involved with the Weizmann Institute and Yad Weizmann in many different capacities, starting with editing one of the volumes of Chaim Weizmann's letters that are housed in the Yad Weizmann archives," says Mandel Foundation President Prof. Jehuda Reinharz, a long-time friend of the Institute,

"When I learned that Iran had demolished several buildings and destroyed ongoing and priceless scientific research taking place within them, there was no question that we at the Mandel Foundation would help. I feel privileged to be part of the process of restoring the Weizmann Institute to its full glory as one of the most important science institutes in the world," adds Prof. Reinharz.

The Jack, Joseph and Morton Mandel Foundation is a devoted champion of cultural and educational activities on campus.

As Prof. Roee Ozeri, Vice President for Development and Communications, shares, "The Mandel Foundation partnered with the Weizmann Institute a few years ago to establish the Weizmann-Mandel Program for Art, Humanities, and Science, which incorporates history, philosophy, and ethics into our graduate activities."

"Given the Foundation's humanistic values, it is no surprise that, after our labs were hit by Iranian missiles, they stepped up with a generous gift to rebuild science in the face of radicalism," Prof. Ozeri adds.

The Weizmann-Mandel Program also supports film, theater, and musical events through Culture at Sela, as well as art workshops and smaller initiatives like the Weizmann Orchestra.

The Mandel Foundation's visionary generosity will be key in helping the Institute rebuild swiftly and continue its pursuit of groundbreaking science.

Prof. Roee Ozeri (left) at the site of the Iranian missile attack with Israeli President Isaac Herzog.

Learning all about the brain

The Zuckerman Israel Institute and Zuckerman Family Foundation are advancing neuroscience locally and globally

The Zuckerman Israel Institute and Zuckerman Family Foundation have made a transformative donation to the Weizmann Institute of Science to establish the Zuckerman Center for Research on Learning, Memory, and Cognition. An additional gift has launched the Zuckerman Israel National Neuroscience Research Program, designed to cultivate collaboration between academic institutions in Israel and the US.

The Zuckerman Center for Research on Learning, Memory, and Cognition is a pillar of Weizmann's neuroscience initiative, the Azrieli Institute for Brain and Neural Sciences. Led by Prof. Nachum Ulanovsky from the Department of Brain Sciences, the Zuckerman Center supports research on the fundamental neuroscience of human cognition, leveraging technological advances to investigate learning, memory, and consciousness. These studies have crucial implications for addressing dementia, memory loss, neurodegenerative diseases, learning disabilities, and mental illness.

"This initiative furthers our commitment to establish Israel as a leader in neuroscience research," said Eric J. Gertler, Trustee of the Zuckerman Israel Institute and Zuckerman Family Foundation, longtime Weizmann supporters. "By establishing this center, we hope to accelerate discoveries that could transform our understanding of one of science's greatest frontiers—the complex human brain—and eventually, provide new treatments to devastating neurological conditions."

The Zuckerman Israel National Neuroscience Research Program will promote partnerships between Israeli and US academic institutions by supporting joint projects led by paired Israeli and American principal investigators. Teams will be eligible for two rounds of funding during each cycle of the 10-year program.

"We are grateful for this visionary support from the Zuckerman Israel Institute and Zuckerman Family Foundation," said Weizmann President Prof. Alon Chen. "Their generosity will serve to encourage groundbreaking research at the intersection of neuroscience and human cognition, foster collaborative studies, and establish Israel as a leader in the field."

Prof. Alon Chen (left) and Eric Gertler establish the Zuckerman Center for Research on Learning, Memory, and Cognition.

Driving innovation in food security and science education

Visionary gift from Bob and Renée Drake will support two major Weizmann initiatives

Robert (Bob) and Renée Drake, key philanthropic leaders and longstanding friends of the Weizmann Institute, have again demonstrated their resolute commitment to advancing science for the future of humanity. Their magnanimous new gift will support two Weizmann initiatives: the Ekard Center for Food Security and Nutrition within the Institute for Environmental Sustainability, and the Ekard Educational Initiative at the Davidson Institute of Science Education.

The Ekard Center for Food Security and Nutrition, led by Prof. Avraham (Avi) Levy, brings together Weizmann researchers working at the intersection of plant genetics, climate science, and sustainable agriculture. Their mission: to develop nature-based solutions that enhance crop resilience, soil health, and sustainable food production in a changing climate.

The Drake family's generous gift will also enable the development of cutting-edge educational content at the Davidson Institute that aligns with the Weizmann Institute's flagship research areas—neuroscience, environmental sustainability, particle physics and astrophysics, and artificial intelligence. These programs will translate the innovative studies conducted at the Weizmann Institute into meaningful learning experiences—through engaging science activities, training sessions for teachers, events open to the public, and more—reaching students and educators across Israel.

"We are following the rebuilding of the campus after the missile attack in June with deep concern, and wish Avi and his team great success as they continue their groundbreaking research," says Bob. "We look forward to learning more about their efforts to solve the global challenges of food sustainability and about the flagship activities being developed at the Davidson Institute."

Adds Weizmann President Prof. Alon Chen: "The Drake family's support is vital to ensuring that the Weizmann Institute continues to be a world leader in both research and science education, even in times of adversity."

Bob Drake, Chair of the International Board of the Weizmann Institute and Chair of its European Committee, and his wife, Renée, have donated to various areas of research at the Institute for decades, and have been instrumental in bringing many new friends and philanthropists into the Weizmann circle. For their numerous contributions, Bob and Renée have each been awarded a PhD *honoris causa*, the Institute's highest honor. They are also both serving as Vice Chairs of the Institute's global campaign, Empower Tomorrow.

"It is an honor for us to contribute to the important work being carried out at the Weizmann Institute," Renée says. "Supporting both sustainability and education is very close to our hearts, and we were especially pleased that our children were actively involved in choosing this research project. Their input, interests, and concerns—as well as their motivation to continue our support—were deeply meaningful to us. Passing this legacy on to the next generation is essential."

The Weizmann Institute is proud to partner with the Drake family and grateful for their dedication to advancing discovery, inspiring young minds, and building a more informed and sustainable future.

(From left) Mathew, Greg, Carolyn, Jerome, Renée, and Bob Drake.

Raising the roof on AI-enabled discoveries

Pascal and Ilana Mantoux's major gift will go towards constructing a new building for artificial intelligence

The Weizmann Institute was Ilana and Pascal Mantoux's first venture into philanthropy in 2008, and their giving has continued at a steady pace over the years. Spearheading programs focused on cancer, stem cells, clinical collaboration, and the establishment of the Ilana and Pascal Mantoux Institute for Bioinformatics—a pillar of the Grand Israel National Center for Personalized Medicine—the couple's enthusiasm for science has been the engine behind exciting discoveries achieved by research teams in every corner of the Weizmann campus.

Continuing their tradition of transformative generosity, Ilana and Pascal Mantoux recently made a new commitment, which will enable construction of a building that will serve as the headquarters for the Weizmann Institute's campus-wide program in artificial intelligence. The couple's staged gift will establish the foundation of a state-of-the-art facility that will increase the potential of AI to accelerate, broaden, and deepen research across every scientific discipline while driving the development of real-world applications.

"We feel privileged to be able to support great scientific endeavors, and we are grateful for the opportunity to contribute toward creating a better future for generations to come," says Ilana, adding that the warm friendship the couple has established with members of the Institute community gives them a sense of purpose. "We consider ourselves goodwill ambassadors of the Weizmann Institute. We are excited to see how the new building will house the concentrated talent and infrastructure needed to speed progress in AI-empowered science, thereby increasing the Institute's global impact."

"The new AI building will provide a hub for the people and systems necessary for Weizmann scientists to maximize the power of current AI tools while generating new and improved applications," says Prof. Roee Ozeri, Vice President for Development and Communications. "Work done in this new facility will push the boundaries of knowledge and generate breakthroughs across virtually all scientific domains, and we are very grateful to Ilana and Pascal for their tremendous support. They have also signed on to serve as Deputy Chairs of the Institute's global campaign, Empower Tomorrow, furthering their deep commitment to the Institute's long-term success."

Pascal and Ilana Mantoux

From light to life

Legacy gift from Barbara Prince and Jack Prince (z"l) illuminates the future of science

Thanks to a generous gift from Barbara Prince and her late husband, Jack Prince, the Weizmann Institute's iconic Solar Tower—originally built to harness solar energy—will undergo a major renovation that will advance cutting-edge life sciences research. Their support honors the building's history and helps shape a future where basic science drives progress in human health.

The revitalized 14-storey tower, to be named the Jack and Barbara Prince Life Sciences Centre, will strengthen Weizmann's leadership in the field for generations. With a sustainable design that will feature modular workrooms, natural lighting, and green spaces, the reimagined facility will unite key research platforms and foster cross-disciplinary studies that could transform human health.

The couple's visionary gift celebrates the life of Jack Prince, beloved husband to Barbara and father to Seymour and Dana. Jack, who passed away in 2024, was a successful lawyer and longtime friend of the Weizmann Institute. He arrived in Canada from Poland in 1939, one of the last to escape before the Holocaust. Jack and Barbara shared a devotion to science, community, and Israel, with Weizmann holding a special place in their hearts.

"I do not consider supporting the Weizmann Institute of Science an act of charity," Jack once said, "but rather a partnership in the future of science for the benefit of generations to come."

Originally built in 1988 with the support of over 400 Canadian donors, the Solar Tower was part of a landmark effort spearheaded by Canadian philanthropists Tom and Mary Beck, who helped establish the Canadian Institute for the Energies and Applied Research at Weizmann as a global center for solar science. These Canadian roots were a key factor in why the Prince family chose to fund the transformation of this historic structure.

"Jack and Barbara's support of Weizmann and its groundbreaking research will shape lives far into the future and leave an indelible impact on society," says Susan Stern, CEO of Weizmann Canada.

Barbara and Jack Prince

"Following the trauma of October 7, I am more committed than ever to investing in sources of hope," says David Lopatie.

Carving out space for hope

David Lopatie dedicates a lounge in the Sieff Building to honor the victims of the October 7 attacks

A visionary philanthropist and one of the Weizmann Institute's longest-standing friends, Mr. David Lopatie of South Africa has made a heartfelt gift to construct a lounge in memory of the victims of October 7, 2023. The new lounge will be located in the historic Sieff Building.

"Following the trauma of the October 7 attack, I am more committed than ever to investing in sources of hope," Mr. Lopatie says.

Inaugurated in 1934 as the Daniel Sieff Research Institute, this landmark building will soon undergo an extensive preservation and renovation project, reopening as a national heritage site and museum. The second floor is home to Dr. Chaim Weizmann's organic chemistry lab and personal office.

These spaces, which have welcomed visitors for decades, will become the centerpiece of a permanent exhibit celebrating the remarkable legacy of Dr. Weizmann and the Weizmann Institute, and their fundamental contributions to advancing science and the State of Israel.

Once renovated, the Sieff Building will also serve as a vibrant gathering place for Weizmann scientists and their colleagues from Israel and abroad, hosting lectures, student thesis defenses, and other special events.

The new lounge, generously dedicated by David Lopatie, will provide an inviting space for Weizmann's international community of students and scientists to brainstorm, exchange ideas, and plan collaborations. As he shares, "It will present a meeting venue between history and the future."

Mr. Lopatie's tremendous support for the Weizmann Institute has shaped a wide range of campus activities over the years. Through his many gifts, he has established landmark projects advancing comparative medicine, theoretical and computational neuroscience, and graduate studies at the Weizmann School of Science, among other high-impact initiatives central to research and campus life.

"David's exceptional generosity and dedication to the Weizmann Institute reflects true friendship and a shared concern for the future of the State of Israel and its people," says Yael Goren-Wegman, Executive Director of the Israeli Association of Friends of the Weizmann Institute of Science. "The new lounge will bring these elements together, linking history with innovation."

Birds of a feather, counted together

Members of the Weizmann Ornithology Club join a national citizen science initiative

By Noga Martin

Bird images by Prof. Tamir Klein

Israel is famous worldwide for its wide variety of bird life, especially during the spring and fall, when an astonishing array of migratory birds pass through on their way to and from Europe and Africa.

For the past 20 years, the Society for the Protection of Nature in Israel, Tel Aviv University's Steinhardt Museum of Natural History and Israel Center for Citizen Science, and the Israeli Center for Yardbirds have all teamed up to operate an annual national bird count—a citizen science initiative to track the types and numbers of bird species in the country and map changes over time.

The spring and fall migrations bring a highly transitory bird population that does not provide an accurate picture of avian species living in Israel year-round. The bird population is at its most stable in summer and winter, but in summer, birds, like people, feel the heat and are most active in the early morning, meaning that counters would have to be up with the birds. So the tally takes place on a Friday at the end of January, allowing people to start at their leisure.

On January 31, members of the Weizmann Institute Ornithology Club and a few guests gathered in front of the Stone Building near the main entrance to the campus to take part in the 2025 bird count and learn about the species that spend at least part of the year in Israel.

Uri-Benjamin Moran, the head of the Weizmann Ornithology Club and a data scientist in the Department of Plant and Environmental Sciences, gave a short presentation and explained how the project works.

Like most things these days, it runs on an app—every person or group participating in the count downloads the eBird app developed by the Cornell Lab of Ornithology at Cornell University. The free app offers a "menu" of bird species, and users pick a spot and spend 10 minutes recording the birds they observe. Participants can record counts from multiple locations, and the app provides the date, time, and GPS location.

Names and numbers

One of the most prevalent birds on the Weizmann campus, and across the country, is the common myna, which is not indigenous to Israel. The myna topped the day's tally, with 21 individuals logged.

Uri told the group that around 25 years ago, a few mynas kept as pets in Israel escaped from their cage and spread "like wildfire," now numbering somewhere between 400,000 and 1 million nationwide.

He described the myna, which competes with indigenous birds for food, as "fearless and intelligent." They are also an ecological threat, destroying nests and eating the chicks of native species.

One native bird that suffers from the myna is the Palestine sunbird, which the group spotted outside the Michael Sela Auditorium. The sunbird is found in Lebanon and Israel down to as far south as Saudi Arabia and sub-Saharan Africa. Male sunbirds are notable for their striking blue-green iridescent coloring, which is the result not of pigments, but the angle at which the sun hits its feathers, giving the bird its English name. In Hebrew, the sunbird is known as "*tzufit*," from the word for nectar. The sunbird is a pollinator, spreading the pollen and nectar that collect on its beak as it flies from flower to flower.

As the group crossed the grass to find a spot for the second 10-minute count, Uri pointed out a nesting box for the great tit, which he noted is one of the many birds that flourished after Zionist pioneers turned the landscape green by planting trees and bushes.

"They don't lack for food—they're clever, active, and inquisitive. What they need are holes in which to nest," he explained. In a pinch, great tits will nest in the hollow centers of signposts, but at Weizmann they are provided with nesting boxes positioned in trees, about nine feet off the ground.

Uri also pointed out a common chaffinch. Despite being birds of a feather, they do not flock together—chaffinches from central and eastern Europe migrate to Israel for winter in sex-segregated flocks, a behavior that inspired their Hebrew name, "*parush matzui*," *parush* meaning "separate."

Where is Israel's national bird?

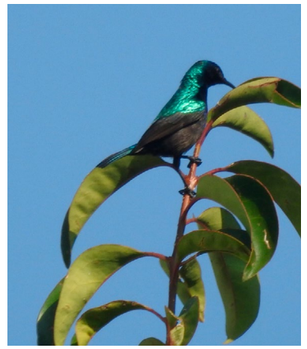
During the club's second 10-minute count, members spotted sparrows, the Sardinian warbler, the greenfinch, the white-throated kingfisher (whose Hebrew name, "*shaldag*," was coined by Israeli national poet, Hayim Nahman Bialik), and parakeets—two varieties of which call Israel home, rose-ringed parakeets and monk parakeets. Both were originally imported as cage birds but escaped and, like the myna, are now an invasive species.

Rose-ringed parakeets nest in crevices and holes and occupy other birds' nests. "They drive woodpeckers nuts," Uri explained—the woodpeckers work hard drilling holes in tree trunks only for these parakeets to show up and harass the woodpeckers until they give in and surrender the hole. Parakeets are also known to damage crops.

While rose-ringed parakeets prefer to let woodpeckers do the heavy lifting, the monk parakeet is the only bird that nests communally, building mega-structures—some "the size of a small Volkswagen"—for multiple pairs. Several of these nests are dotted around the campus, including one in a pine tree outside the San Martin Faculty Clubhouse.

All in all, the Ornithology Club logged 18 species of birds in two 10-minute counts. The most prevalent were the common myna (21), white-spectacled bulbul (14), rose-ringed parakeet (7), and white-throated kingfisher (4).

One species that failed to make an appearance was the hoopoe, selected by popular vote in 2008 as the national bird as part of Israel's 60th anniversary celebrations. Hoopoes can frequently be spotted on the lawn in front of The David Lopatie Conference Centre, but on this day, they were not down with the count.



Year-round tracking

The national bird count is an annual event, but thanks to a new initiative from the Office of Campus Sustainability, birdlife at Weizmann will be tracked throughout the year, along with mammals, insects, reptiles, and flora.

This campus-wide nature survey is open to everyone in the community, and was initiated to help the Institute leadership make ecologically responsible development decisions. Like the bird count, the system is smartphone-based: participants download the iNaturalist app and log the mammals, reptiles, insects, birds, plants, trees, and flowers they identify. The survey is continuously updated and can be viewed by anyone on the Weizmann Institute's project page on the iNaturalist website.

THE NATIONAL STATS

In April, the Israel Center for Citizen Science published the 2025 bird count data, compiled from 1,400 reports. This marks an 11% increase compared to 2024, which may be attributable to notably pleasant winter weather, ceasefires with Hamas and Hezbollah, and a new website.

- Communities participating nationwide: 204
- Participating schools and kindergartens: 134
- Birds counted: 51,863
- Species counted: 144
- Five most common birds: gray crow (reported on 63% of lists), myna, domestic pigeon, palm dove, parakeet

Spotted on campus: monk parakeet (top left) and Palestine sunbird (above).

CITIZEN SCIENCE

Weizmann scientists are using **artificial intelligence** to tackle the most challenging questions in sustainability

By Jennifer Racz

Artificial intelligence has burst into the public imagination through chatbots, image generators, and content creation, but in the labs of the Weizmann Institute, it is being used for something far more profound: solving some of the most pressing challenges in human and planetary health. Supported by a strong knowledge base, access to cutting-edge tools, and dedicated funding, Weizmann researchers are leveraging the incredible power of AI into a force for advancing sustainability science.

Breath of knowledge

If you live in a major city like New York, Seoul, or Tel Aviv, you can check the air quality—the concentration of particulates, levels of ozone, and whether it's safe to breathe the air—in a matter of seconds on your phone. But for billions of people worldwide, no such data or resources exist. Monitoring air pollution requires the kind of ground tracking that is lacking in many parts of the world.

In Prof. Yinon Rudich's group in the Department of Earth and Planetary Sciences, PhD student Nati Ofir is using his extensive training in computer science at the Weizmann Institute (where he completed both MSc and PhD degrees), to bridge this gap. Merging his background in computer science with chemistry and sustainability concepts, he uses satellite and meteorological data on atmospheric conditions above the Korean peninsula and North America, alongside information on air quality from ground stations in cities, to design models that can predict air quality where ground data is missing.

"The satellites provide images of the atmosphere, but not what's happening on the surface," Dr. Ofir explains. "Combining satellite images and ground data from other cities, AI learns how to make that leap."

Given its ability to learn patterns and fill in missing information, AI has become a powerful tool in climate science, helping researchers build faster and more accurate climate models, improving weather pattern simulations, and filling in temporal or spatial gaps in observations.

"AI lets us sift through massive, complex datasets to uncover hidden patterns in the climate system," says Prof. Rudich. "These insights open new paths for discovery and can make our predictions about the planet's future more powerful."

In Dr. Ofir's case, with a laptop and several years of archived satellite data, he developed a model that can generate real-time predictions about air pollution events and risk in surrounding areas, in places such as Vietnam or Thailand—countries with limited infrastructure but high exposure.

In the future, his model could use data from low-cost satellites to predict air quality and air pollution events in cities and towns that lack monitoring infrastructure altogether.

"Satellite images are cheap compared to ground stations and can cover many countries. Once I teach the algorithm, I don't need the ground station anymore," he explains.

For policymakers, these forecasts could shape interventions to reduce exposure to polluted air. For families, they could protect children on high-pollution days. "AI allows us to fill in missing data," adds Dr. Ofir, "giving everyone access to the same critical information about the air they breathe."

> Dr. Nati Ofir:
> "AI allows us to fill in missing data, giving everyone access to the same critical information about the air they breathe."

Cracking the Rubisco code

If air pollution is a modern challenge, Rubisco is an ancient puzzle. This enzyme, found in both plants and bacteria, and with origins that date back to more than three billion years ago, sits at the very

heart of life: it captures carbon dioxide from the atmosphere and transforms it into sugars during photosynthesis. Every carbon atom in your body, every bite of food you've ever eaten, has passed through the Rubisco enzyme.

Yet despite its central role, this enzyme is astonishingly inefficient. It works slowly—just one reaction per second, while other enzymes catalyze thousands—and often makes mistakes, confusing oxygen for carbon dioxide and creating toxic byproducts. Scientists have worked to engineer a faster, more accurate Rubisco enzyme for decades, but its complexity and resistance to change have made it nearly impossible.

Dr. Dina Listov, a postdoctoral fellow in Prof. Sarel Fleishman's lab in the Department of Biomolecular Sciences, believes that AI-based tools hold the key to cracking the Rubisco code. Taking advantage of natural diversity within the enzyme's family—plant Rubisco is better adapted to today's oxygen-rich atmosphere, while bacterial Rubisco often works much faster—the Fleishman group sequences and compares the Rubisco proteins to identify features that could improve the enzyme. Their goal: combine the desired fragments to create a Rubisco that outperforms nature's own.

Artificial intelligence programs are accelerating this process. While it once took months to predict whether a new hybrid would fold into a stable, functional protein, AI tools such as AlphaFold—developed by Google DeepMind—can predict 3D structures in minutes. "What used to take me half a year, I can now do in 10 minutes," Dr. Listov says.

Instead of painstakingly stitching together Rubisco fragments through months of computation, she can now design hundreds of thousands of novel Rubisco enzymes in under an hour. AI not only accelerates her work—it opens new avenues, suggesting pathways human intuition might miss. Success could open the door to the engineering of microbes that pull carbon straight from the air and convert it into fuel or medicine.

"AI enables us to weave together vast amounts of computational and experimental data in ways we simply couldn't before. We can move beyond nature's existing toolkit of proteins and start designing entirely new ones—from powerful therapeutics to enzymes that can drive sustainability solutions," says Prof. Sarel Fleishman.

According to Prof. Fleishman, "AI enables us to weave together vast amounts of computational and experimental data in ways we simply couldn't before. We can move beyond nature's existing toolkit of proteins and start designing entirely new ones—from powerful therapeutics to enzymes that can drive sustainability solutions."

For Dr. Listov, AI has become a partner in discovery. "It doesn't just make research faster," she reflects. "It makes possible what was impossible."

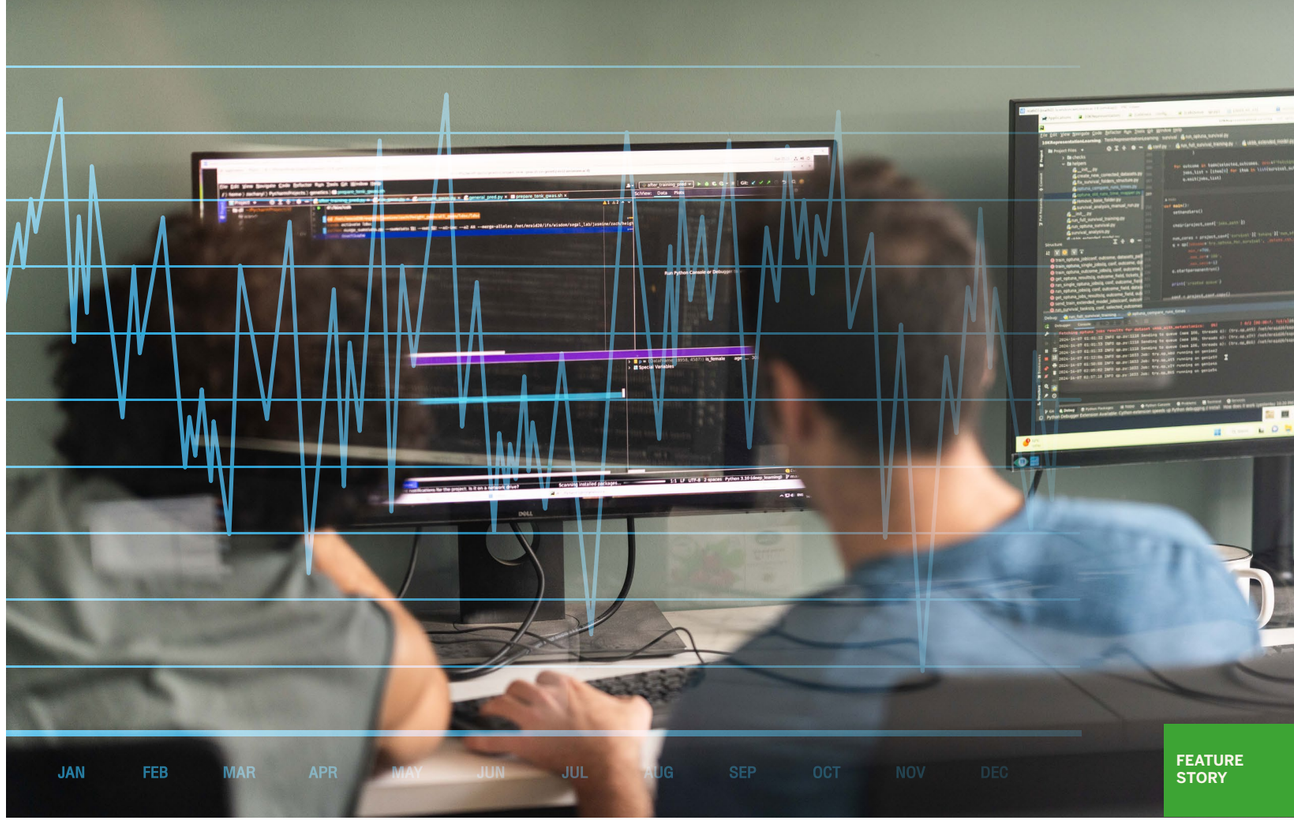
Following the chemical trail

Modern agriculture depends on herbicides and pesticides to secure global food supplies. These same chemicals often linger in our food, water, and bodies, raising profound public health questions about links between environmental pollutants and disease. At the Weizmann Institute, Prof. Eran Segal, from the Departments of Molecular Cell Biology and Computer Science and Applied Mathematics, and Dr. David Zeevi, from the Department of Plant and Environmental Sciences, are leading a collaborative project to untangle how these compounds travel from farm fields into humans—using AI to help reveal both their risks and possible solutions.

By analyzing blood samples from 2,500 participants alongside detailed diet records, the scientists discovered that traces of a common weed killer, quinmerac, appeared more often among vegetarians and vegans. Other analyses showed clear links between dietary choices, pesticide exposure, and metabolic markers. Such findings highlight how even health-minded individuals can be exposed to hidden risks.

Beyond human blood, Prof. Segal and Dr. Zeevi are looking at the microbes that populate lakes, soils, and guts. Dr. Zeevi describes these microbes as Earth's "tiny witnesses." Trillions of species are constantly metabolizing and adapting to their surroundings, leaving behind a genetic record of the pressures they face. Among them are bacteria capable of breaking down persistent agricultural chemicals.

"Analyzing the microbes is like interviewing the witnesses," he explains. "If we learn how to read them, they can tell us what's happening to the planet."



FEATURE STORY

AI allows scientists to "read the witnesses," integrating massive datasets—from human metabolomics and diet logs to microbial DNA and evolutionary signatures—to train models that reveal broad rules. In one study, the group identified DNA fragments tied to pesticide breakdown, creating rules that uncovered similar patterns in other ecosystems.

Applying these models to Canadian lakes polluted by farm runoff, they found bacteria whose genes had adapted to stress—many linked to the degradation of glyphosate, one of the world's most common herbicides. These insights are bringing researchers closer to practical solutions, from dietary changes that reduce risk to harnessing bacteria that clean the environment.

According to Dr. Zeevi, the Weizmann Institute's supportive environment makes such ambitious work possible. Strong core facilities in chemistry and sequencing, together with the Institute's AI hub, provide the infrastructure; its collaborative culture brings together the needed expertise; and grants from the Institute for Environmental Sustainability provide the funding that can often be hard to secure. "At Weizmann," he says, "all you need is the idea."

YINON RUDICH IS SUPPORTED BY:

- The Abisch-Frenkel RNA Therapeutics Center
- The Ilse Katz Institute for Material Sciences and Magnetic Resonance Research
- The Nancy and Stephen Grand Research Center for Sensors and Security
- The Irving and Cherna Moskowitz Center for Nano and Bio Nano Imaging

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- The Louis H. Sackin Research Fellow Chair in Computer Science supports a staff scientist in Prof. Segal's Lab

From bedside to bench and back again

Dr. Noa Lavi-Shoseyov, an ob-gyn at Kaplan Medical Center, is now working toward a PhD at Weizmann to help keep women healthier for longer

By Noga Martin

Dr. Noa Lavi-Shoseyov always wanted to work as a clinician, not a researcher. After earning her MD at the Hebrew University of Jerusalem in 2014, she spent six years as an intern and then an obstetrics and gynecology resident at Kaplan Medical Center in Rehovot. She is currently a physician in the hospital's Fertility and In Vitro Fertilization Unit.

"I love my patients. I love working in a hospital, the work in the clinic," Dr. Lavi-Shoseyov says.

During her residency, on the recommendation of friends, she spent her required six-month basic science rotation in the groups of Profs. Michal Neeman and Nava Dekel in the Weizmann Institute's Department of Immunology and Regenerative Biology.

"My friends said, stay on and do a PhD. I said, 'No, I want to be a clinician.' But I started exploring my research subject and got to know Michal and Nava, who are both amazing women, very impressive. They're wonderful role models for women, both in terms of their professional success and their ability to work in a way that's very collegial, very collaborative and open.

"I really liked them both, and my research created an opening to a new world," she says.

Lowering health risks

As a PhD candidate, Dr. Lavi-Shoseyov is exploring why the vast majority of a woman's oocytes (egg cells) die while in their dormant state, without ever being activated and ovulating. Women are born with a "reserve" of one million oocytes. Over the course of their lifetime, only about 5,000 of these cells will be activated into the ovulation process, and only 500 or so will ovulate, potentially resulting in a pregnancy.

Discovering the key to this process might lead to methods of delaying it and thereby postponing the onset of menopause. While menopause is known to be a considerably uncomfortable time for women, characterized by unpleasant symptoms like hot flashes, weight gain, and mood swings, it also involves a massive hormonal transition that carries major implications for women's health, ranging from osteoporosis to cardiovascular disease—the leading cause of death for women worldwide.

When a woman's reserve of oocytes is depleted prematurely, she is at much higher risk (as high as a factor of 10) of developing menopause-associated health conditions. Conversely, research has shown that the later a woman goes through menopause, the lower her risk of these conditions.

"The moment we lose our 'estrogen factory,' it starts to become a problem," Dr. Lavi-Shoseyov explains.

She and her colleagues used a model developed by a former member of the group, in which a protein called vasorin [see sidebar] is knocked out from the growing follicles of female mice. This resulted in a decrease in the number of dormant primordial follicles, while the number of activated ones remained the same, making their model a potentially effective method of probing how follicles die.

For Dr. Lavi-Shoseyov, pursuing a PhD is a path to exploring the basic science of her chosen field, not a goal in and of itself to earn the degree.

"The PhD is a way to conduct research. It's what allows me to do my research here—all due to the six months I spent here and [under Prof. Neeman's and Prof. Dekel's] guidance."

This year, Weizmann is welcoming the first cohort of students to its combined MD-PhD program, as part of the Miriam and Aaron Gutwirth Medical School. When asked what makes a physician who returns to basic research different from one trained in an MD-PhD program, Dr. Lavi-Shoseyov says, "I think I'm here with a more defined outlook compared to students who do a PhD while in medical school and haven't chosen a direction. They tend to choose their research and select a specialization based on that. I'm here because of the needs I see and my experience in clinical work."

Growing up around science

"I was definitely raised in a medical environment," Dr. Lavi-Shoseyov says. Her mother, Dr. Nurit Shoseyov, is a family doctor, and her father, Dr. David Shoseyov, is a pediatric pulmonary specialist and researcher. Her uncle, Prof. Oded Shoseyov, is a scientist at Hebrew University and a serial biotech entrepreneur.

She is married to Dr. Amir Lavi, an oral and maxillofacial surgeon, and has two daughters, ages 6 and 9, who are growing up around science and medicine. They visit her on campus and spend time at the hospital while she is on call.

"The younger one says she wants to be a doctor, and I think there's a good chance she will be, because she really shows an interest. I had stitches removed, and she came up to watch."

"Since I've been at Weizmann, they're both very interested in science," Dr. Lavi-Shoseyov adds. "The older one plans to be a scientist at Weizmann herself."

THE FOLLICLE CODE

In March 2025, Dr. Noa Lavi-Shoseyov was the first speaker at the Weizmann Institute's International Day of Women in Science, an annual event on campus that features short lectures by women scientists covering a wide range of fields. Dr. Lavi-Shoseyov discussed her group's work with the protein vasorin, which is usually studied in the context of blood vessels, but which Prof. Nava Dekel demonstrated plays a role in the basic physiology of the ovary.

Prof. Dekel and her team discovered that removing vasorin from ovarian cells in female mice changed the number of immature egg cells. This finding suggests that follicles in the ovary send signals to one another to regulate these dormant eggs—a process scientists are only beginning to understand. Dr. Lavi-Shoseyov believes vasorin may play a key role in that communication, influencing which follicles survive and which do not. "We don't know what this is or how it works. This is one direction of my research," she says.

The study offers new clues that could help preserve fertility and improve women's reproductive health.

MICHAL NEEMAN IS SUPPORTED BY:

- The de Picciotto Cancer Cell Observatory In Memory of Wolfgang and Ruth Lesser
- The Sagol Institute for Longevity Research
- The Helen and Morris Mauerberger Professorial Chair in Biological Sciences

Anchoring hope

In the shadow of trauma, the new national program **Ogen** is working to fortify the emotional resilience of Israeli children and youth

Following the October 7 attacks in 2023, and amid the ongoing conflict in the region, Israeli children are grappling with psychological wounds that may take years—if not decades—to heal. For many, the trauma is tragically familiar. Years of exposure to violence, displacement, and national emergencies have left deep emotional scars. With tensions persisting, the need to address the mental health of Israeli children and teens has reached a critical peak.

To meet this urgent need, the Weizmann Institute of Science has launched Ogen—Hebrew for "anchor"—a groundbreaking national program designed to foster emotional resilience in children affected by trauma. Spearheaded by Weizmann President Prof. Alon Chen, a world-renowned expert in the neurobiology of stress and stress-linked psychopathologies, Ogen aims to change the trajectory of an entire generation.

Prof. Chen was already aware of and deeply concerned by the overload and long wait times in the public mental health system when it comes to treating psychopathologies such as depression, anxiety, and post-traumatic stress disorder (PTSD) among children and adolescents. The coronavirus pandemic and the October 7 onslaught only increased demand on an overtaxed system.

One way of addressing this mental health crisis, Prof. Chen explains, is to treat identified psychological conditions using existing tools and try to intervene as soon as possible after the traumatizing event.

"But at the same time, we need to work on prevention," he says. While wars and stress will always exist, he adds, it is vital to teach children and teens how to cope in situations in which they are exposed to stress.

"Training them in how to become resilient is an extremely important part of Ogen, as is identifying [especially] sensitive individuals and trying to treat them, if needed."

"PTSD is not simply related to whether you are resilient or

susceptible to experiences. There’s also a genetic component,” he explains, meaning that some children have a genetic predisposition to developing stress-related difficulties.

“We have identified a key brain mechanism that is especially sensitive to childhood trauma,” Prof. Chen says. “But the most exciting part is the prospect of using the plasticity of the young brain to help it recover, avoiding the toll this trauma can exact in adulthood.”

Early intervention

The current conflict has affected nearly every Israeli child, whether through direct exposure, prolonged displacement, or fear for the safety of loved ones. While 5–10% may develop anxiety, depression, or eating disorders, research shows that many children in Israel experience some level of psychological or social disruption.

A dire shortage of trained mental health professionals further compounds this challenge. Wait times for psychiatric care can exceed 12 months, and most children in need may never see a clinician. Without early, accessible intervention, the effects of trauma can solidify, altering brain development and leading to academic struggles, social withdrawal, and lifelong emotional challenges.

The Ogen program offers a scalable, science-informed model of care. Inspired by the successful Perach national tutoring program launched at the Weizmann Institute in 1973—which has paired countless university students with disadvantaged youth across the country in the decades since—Ogen zeroes in on a vital focus area: mental health resilience.

Like Perach (Hebrew for “flower” and the acronym for “tutoring project”), the Ogen initiative recruits university students majoring in psychology, education, social work, or health-related fields, as mentors. In exchange for full-tuition scholarships and professional training, these students dedicate four hours each week to classroom-based resilience programming.

After intensive training, these mentors are matched with classes in grades 4 through 9, where they lead resilience-building activities for groups and individuals that help children process stress, boost their confidence, and recognize their emotional needs, serving as a stable presence throughout the school year. “The mentors are high-quality, professional, and wonderful,” said Shani, a school counselor from the Be’er Sheva area.

The program also includes mechanisms for the early identification of children at risk. When necessary, mentors refer children who might need professional clinical care to providers, collaborating with hospitals such as Sheba Medical Center in Ramat Gan.

Where it all began

Following the October 7 attacks, Prof. Chen says his first impulse was to come up with a solution that would help the country’s healthcare system cope with the increasing need for psychological intervention. He reached out to hospital directors and heads of psychiatry to see how the Weizmann Institute could assist, but found there were limited options for offering help in this context.

In March 2024, he attended a ceremony at the President’s Residence in Jerusalem marking the 50-year anniversary of the Perach program. Prof. Chen, who currently serves as Chairman of Perach and was also a Perach mentor in his student days, shared his long-held concerns about the treatment provided for children dealing with stress and trauma. It had always bothered him that only those taken to emergency care with severe symptoms of stress-related disorders—some 5% of those suffering from stress and trauma-related symptoms—are provided with effective psychological or psychiatric intervention.

The majority of children showing symptoms of psychopathologies related to stress and trauma are “invisible” to the system and untreated, he says.

Then it clicked: why not use the Perach model to intervene with the 95% of children exposed to stress whose symptoms are not severe enough to fast-track them to psychiatric care?

He began considering the potential impact—not only for the children themselves, but also for the healthcare system and society as a whole—of treating the non-acute cases. “I said, if there aren’t enough physicians, psychiatrists, psychologists, and social workers, why shouldn’t we use [university] students working on degrees in social work, education, and healthcare?”

He called social worker and scholar Prof. Orit Nuttman-Shwartz, who founded the School of Social Work at Sapir Academic College in Sderot and had just retired. He and one of his former students, a psychiatrist, met with her and began brainstorming. They established a steering committee of experts from different fields to help formulate the concept of a new program to be implemented in the Israeli school system, in which student mentors would reach children immediately and in a familiar setting.

Why Weizmann?

Founding and launching Ogen just a year after October 7 was no small feat, but one the Weizmann Institute was uniquely positioned to pull off. Prof. Chen explains the combination of factors that made it possible—passion for the subject, his contacts and professional reputation and that of Prof. Nuttman-Shwartz and the other committee members, as well as the Weizmann philanthropic community, which has responded generously.

“It grew so fast. The concept was born in March [2024] and by November, we were in schools. I don’t think anyone other than the Weizmann Institute would have been able to do that,” he says.

The result was an initial cohort of student-mentors who completed Ogen training on the Weizmann campus in the autumn of 2024, with a second cohort that completed their training in January 2025, producing 97 student-mentors who worked with 2,700 children in grades 4-9 in the program’s pilot year, which he describes as “fantastic.”

Ogen’s pilot launched during the 2024-2025 academic year in two cities in southern Israel where the effects of trauma have been especially acute: Ofakim, which suffered a direct assault on October 7, and Be’er Sheva, which hosts evacuees from Gaza-border towns, presenting both a pressing need and an unparalleled opportunity for impact.

In the 2025-2026 school year, Ogen is expanding to additional towns in southern Israel as well as to the country’s north, which saw over 100,000 residents evacuated and massive destruction due to Hezbollah shelling. Prof. Chen expects the second year of the program to include about 200 student-mentors in southern Israel and 100 more in the north, working with some 8,000 children—three times the reach of the pilot year.

He also notes that there is “huge” interest from college and university students, with applications for student-mentor training flooding in, even with the significant commitment that the program demands. Unlike Perach, which does not follow a lesson plan, and where the benefit to participants comes mainly from

Prof. Alon Chen speaking at a conference on the Ogen program in October.

time spent with their mentors, Ogen follows an established curriculum that requires mentors to prepare activities for each weekly meeting.

Currently, Prof. Chen says, one of the factors limiting the scope of the program is the difficulty in identifying appropriate and qualified mentors, especially since only second and third-year [undergraduate] students are eligible, and they are selected "quite carefully."

Building bridges

Ogen is designed to meet children where they are—in schools, during the school day, supported by trusted adults. This low-barrier, non-stigmatizing structure is essential, especially in communities where seeking mental health care is often inaccessible or culturally taboo.

"We are enchanted with this program," remarks Yael Ziv, a school principal in Ofakim. "It's simply perfect. These are children who are really in need."

The program also builds unexpected bridges between populations, promoting empathy, shared identity, and a deeper sense of national cohesion by pairing mentors and youth from different backgrounds.

While a formal evaluation of the pilot year is still being conducted, early responses have been enthusiastic, and surveys from mentors, parents, and school staff are providing valuable insights that help refine the model.

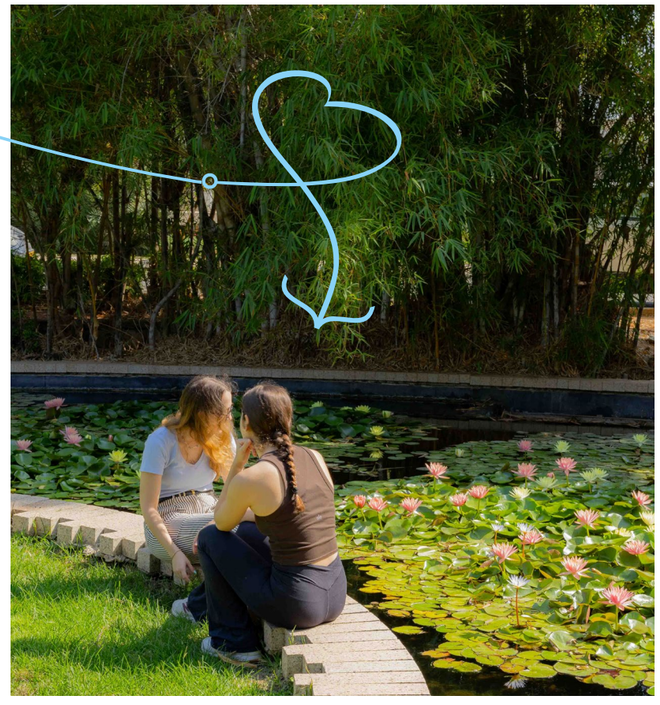
Prof. Chen describes the feedback from educators as "extraordinary."

"We are enchanted with this program. It's simply perfect. These are children who are really in need. [This is a] real prevention program," remarks Yael Ziv, a school principal in Ofakim.

"The mentors are so professional… I am truly witnessing a positive process with the students," adds a teacher at Uziel Chabad School in Be'er Sheva.

"A good indication of the success of the program is that every school that participated this past year wants to stay in the program. Now, in Year 2, we're going to the north, including Arab Israeli schools." Prof. Chen says.

Preparations are underway for expansion into northern Israel, where a mosaic of communities—Jewish, Arab, Druze, and Circassian—face their own distinct challenges. Ogen is being adapted to meet the cultural and linguistic needs of each area, with new partnerships forming between the Weizmann Institute and local institutions such as Tel-Hai College, Western Galilee College, and Zefat Academic College.



This community-based, future-focused strategy emphasizes local engagement and ensures that the program supports not only the healing of individual children but also that of the broader community around them.

"I think it's an amazing model," Prof. Chen says. "It's very important to emphasize that even by just reaching out to these children, they are no longer 'invisible.' We hear their stories. The signature created by the trauma, by the stress, 'sits' in their cells. The vast majority will cope. They'll recover and most might not even remember. But in five or 10 years, they're going to be exposed to trauma as soldiers or in their civilian life and the 'signature,' the memory of the early trauma, will resurface. We have scientific evidence for this."

A ripple effect

Ultimately, Prof. Chen believes the Ogen program will grow to a point when it will require more than philanthropic support to keep it running. The Weizmann Institute will continue to develop and manage Ogen, with the goal of then handing it over to receive government support through the Education Ministry—much like Perach before it. During this time, data gathered from Ogen will also feed into scientific research at the Institute, advancing our understanding of trauma, stress, and resilience.

The classroom model used by Ogen enables a single mentor to work with many students, creating a huge ripple effect, one that could have a profound impact on the emotional well-being of multiple generations. The need, Prof. Chen emphasizes, is enormous.

"If we had 10,000 student-mentors, they could be working with 270,000 kids," he says. "Every school in the country would probably love to have Ogen."

Most importantly, the children are flourishing. Participating classrooms have an "Ogen corner," he adds. Children adore their mentors, who report kids waiting for them at the school gates on "Ogen day."

"I can't wait for Mondays, which is our Ogen day," writes one child in a heartfelt note. "Every Monday I'll be happy because I'll be waiting for class to start and for Ogen to begin."

OGEN IS SUPPORTED BY:

- Myriam Dahan and Ronald Reuben
- The Michael & Susan Dell Foundation
- Federation CJA
- The Joseph Lebovic Charitable Foundation and The Dr. Wolf Lebovic Charitable Foundation
- Jack and Barbara Prince
- Larry and Judy Tanenbaum Family Foundation

ALON CHEN IS SUPPORTED BY:

- The Ruhman Family Laboratory for Research in the Neurobiology of Stress
- Edmond de Rothschild Foundation
- The Vera and John Schwartz Professorial Chair in Neurobiology
- The Hugo Enrique Gerber Research Fellow Chair in Neurosciences supports a staff scientist in Prof. Chen's lab

A signal of the **best science** to come

2025 Israel Prize in Engineering awarded to Prof. Yonina Eldar

By Ettay Nevo

The Weizmann Institute's Prof. Yonina Eldar has been awarded the 2025 Israel Prize in Engineering Research and Engineering Sciences. The country's highest civilian honor, the Israel Prize was presented at the national ceremony in Jerusalem, held on Independence Day in April.

"It's an incredibly moving and humbling experience to be part of such a distinguished group of individuals whose contributions are so significant in their respective fields," says Prof. Eldar. "Particularly meaningful to me is the recognition that scientists in Israel are leading groundbreaking research in so many areas, especially during these challenging times."

An internationally renowned expert in signal processing, Prof. Eldar develops advanced sensors and algorithms that extract meaningful data from sound, light, and radio waves. Her innovations are used in fields ranging from security and defense to autonomous vehicles and medical monitoring, including a miniaturized ultrasound device.

"Our approach uses advanced signal sampling techniques to tap into additional layers of digital information," she explains. "We're not only able to produce higher-quality images but also extract additional diagnostic parameters beyond what is included in traditional ultrasound imaging."

Another development is a radar system that can remotely detect extremely subtle movements, such as the rise and fall of a person's chest during breathing. "What makes our technology unique is the algorithm, which enables precise monitoring of heart rate and respiration—even for multiple individuals simultaneously in crowded environments," Prof. Eldar says. "This system combines accuracy, scalability, and versatility."

Born in Toronto in 1973, Prof. Eldar moved to Israel at age six with her family. Her parents, both educators, emphasized community involvement and a passion for learning. After national service with the Bnei Akiva youth movement, she earned a double degree in physics and electrical engineering at Tel Aviv University.

She later completed a PhD at the Massachusetts Institute of Technology under signal processing pioneer Prof. Alan Oppenheim—arriving in Boston with her eight-week-old baby. Despite offers from top American institutions, Prof. Eldar chose to return to Israel, where she established the Signal Acquisition Modeling Processing and Learning (SAMPL) Lab at the Technion-Israel Institute of Technology. In 2019, after 17 years at the Technion, she moved her lab to the Department of Computer Science and Applied Mathematics at the Weizmann Institute, where she now also heads the Biomedical Engineering Center.

"The Weizmann Institute is a great fit for our group because there is a wide range of people here who are enthusiastic about cross-disciplinary collaboration," she says. "This gives us the momentum to pursue the best science, free from rigid classifications, and also opens up many opportunities."

YONINA ELDAR IS SUPPORTED BY:

- The Manya Igel Centre for Biomedical Engineering and Signal Processing
- The Swiss Society Institute for Cancer Prevention Research
- The Dorothy and Patrick Gorman Professorial Chair

Next-level **quantum**

2025 Wolf Prize in Physics awarded to Prof. Moty Heiblum

By Noga Martin

Prof. *Emeritus* Moty Heiblum from the Department of Condensed Matter Physics is one of three 2025 laureates of the prestigious Wolf Prize in Physics, awarded by the Wolf Foundation. He shares the honor with Jainendra K. Jain of Pennsylvania State University and James P. Eisenstein of the California Institute of Technology. The award was given for "advancing our understanding of the surprising properties of two-dimensional electron systems in strong magnetic fields."

Prof. Heiblum studies the quantum behavior of electrons in solids at ultra-low temperatures. His work has demonstrated how controlled interactions of interfering electrons with the environment can turn "on and off" their quantum behavior. Some of his basic findings have helped clarify particle-wave duality, as well as the influence of measurement on the quantum behavior of electrons.

The Wolf Foundation celebrates these three scientists for their contributions to transforming our understanding of the fractional quantum Hall effect, in which a thin layer of electrons in a magnetic field behaves as if the electrical current is carried by particles having just a fraction of the charge carried by a single electron. Prof. Heiblum is hailed for pioneering the exploration of these exotic particles in the laboratory. Ultimately, the scientists' work is expected to have a lasting impact on emerging quantum technologies.

Prof. Heiblum's many previous awards include the IBM Outstanding Innovation Award, the EMET Prize awarded by the A.M.N. Foundation for the Advancement of Science, Art and Culture, and the American Physical Society's Oliver E. Buckley Condensed Matter Prize.

Insight and impact

Weizmann scientists are honored in Israel and abroad for game-changing discoveries in every field of research, from quantum systems to science teaching to sustainability

By Noga Martin

PHENOMENAL PHYSICS

The Institute of Physics in the United Kingdom has awarded the 2025 **Simon Memorial Prize** to **Prof. Ady Stern** from the Department of Condensed Matter Physics.

Prof. Stern, Director of the Schwartz Reisman Institute for Theoretical Physics at Weizmann, studies quantum phenomena in electronic systems. He has worked extensively on the fractional quantum Hall effect, a phenomenon in which an electronic system influenced by a magnetic field develops particles whose charge is a fraction of the electron charge, and whose quantum properties are an endless source of surprises.

Prof. Stern is interested in both the purely theoretical aspects of this area of research and in developing models to conduct and analyze empirical experiments.

In addition to his work on the quantum Hall effect, Prof. Stern is honored for his research on quantum statistics of emerging quasi-particles, topological order, and decoherence in condensed matter systems at low temperatures, all of which the UK Institute of Physics hails for "significantly advancing our understanding of condensed matter systems at low temperatures."

The group also praised his theoretical insights for "stimulating the development of new avenues of both experimental and theoretical investigation."

"Being part of the global community of condensed matter physics is an important part of my life, so getting this sign of appreciation from the community is a great pleasure for me," Prof. Stern says.

NEW FRONTIERS IN LIFE SCIENCES

Prof. Jacob Hanna from the Department of Molecular Genetics is the 2025 winner of the esteemed **Nakasone Award** from the Human Frontier Science Program, a European organization dedicated to promoting international cooperation in basic life sciences research. Named after former Japanese Prime Minister Yasuhiro Nakasone, the award honors groundbreaking discoveries from the past decade that have advanced human understanding of biology.

Prof. Hanna is pioneering techniques in induced pluripotency, artificial embryo models, and reprogramming of adult cells. His work contributes a novel, principled approach to answering important questions in developmental biology. It could also help us better understand the causes of certain birth defects and various types of infertility. Finally, it offers an ethical platform for scientific experiments, for example, determining the effects of exposure to drugs or other substances on fetal development.

Prof. Hanna says, "I am humbled by this recognition, and thankful to the Weizmann Institute management and generous donors for their long-term commitment to supporting this high-risk and financially demanding line of research over the past 14 years since I started my lab."

KICKING CANCER TO THE CURB

Prof. Ziv Shulman of the Department of Systems Immunology has been awarded the 2025 **Rappaport Prize for Excellence in Biomedical Research** for a promising researcher.

Prof. Shulman's work focuses on uncovering the cellular and molecular mechanisms that drive protective antibody-mediated immune responses. His team combines murine models, human-derived tissues, advanced imaging technologies, and next-generation genomic tools to study the intricate process of antibody evolution, where immune cells undergo selection to produce highly effective antibodies. Building on these insights, the lab extends its work to complex human diseases, including cancer. Specifically, the team investigates the role of antibody-producing cells within tumors and tumor-associated lymph nodes and explores strategies to manipulate these cells to develop novel immunotherapy approaches.

Awarded by the Bruce and Ruth Rappaport Foundation, the Rappaport Prize recognizes investigators undertaking scientific and clinical research that could potentially improve the health of humanity as a whole.

Prof. Ayelet Erez from the Department of Molecular Cell Biology and **Prof. Steffen Jung** from the Department of Immunology and Regenerative Biology are co-recipients of the 2025 **Endeavor Award** from the New York City-based Mark Foundation for Cancer Research.

ADY STERN IS SUPPORTED BY:

- The Schwartz Reisman Institute for Theoretical Physics

JACOB HANNA IS SUPPORTED BY:

- The Dr. Barry Sherman Institute for Medicinal Chemistry

ZIV SHULMAN IS SUPPORTED BY:

- The Dwek Institute for Cancer Therapy Research
- The Moross Integrated Cancer Center
- The Rising Tide Foundation

AYELET EREZ IS SUPPORTED BY:

- The Abisch-Frenkel RNA Therapeutics Center
- The EKARD Institute for Cancer Diagnosis Research
- The Miriam and Aaron Gutwirth Medical School
- The Koret Foundation
- The Moross Integrated Cancer Center
- The David and Fela Shapell Family Center for Genetic Disorders Research
- The Sir Ernst B. Chain Professorial Chair
- The Blumberg Family Research Fellow Chair in Honor of Talia Lynn Steckman supports a staff scientist in Prof. Erez's lab

STEFFEN JUNG IS SUPPORTED BY:

- The Henry H. Drake Professorial Chair of Immunology

"I am humbled by this recognition, and thankful to the Weizmann Institute management and generous donors for their long-term commitment to supporting this high-risk and financially demanding line of research."
– Prof. Jacob Hanna, Molecular Genetics

The Endeavor Awards "support collaborative research projects that bring together investigators with diverse areas of expertise to tackle challenges in the prevention, diagnosis, and treatment of cancer."

Profs. Erez and Jung and their colleagues, Prof. Asya Rolls from Tel Aviv University and Dr. Keren Yizhak from the Technion-Israel Institute of Technology, were honored for their work on cancer-associated cachexia, a little-understood syndrome in which patients with advanced cancers suffer extreme weight loss and muscle wasting.

The team proposed that cancer cachexia results from a malfunction in communication between the autonomic nervous system, the immune system, and liver metabolism. They plan to use the prize to analyze these interactions at various levels of resolution: molecular, cellular, and systemic, with the goal of gaining understanding that could lead to developing new therapies for this debilitating condition.

Prof. Erez, a practicing physician, studies the reciprocal relationship between metabolic aberrations and human diseases, particularly in cancer, to uncover therapeutic and diagnostic interventions. She is the first Dean of the Institute's Miriam and Aaron Gutwirth Medical School.

Prof. Jung studies a family of immune cells known as monocytes and macrophages, which play a key role in the development and maintenance of body tissues, including metabolic states. Macrophages also protect against invading pathogens. Prof. Jung and his team use live-cell imaging, genomic analysis, and advanced genetic engineering techniques in pre-clinical animal models to investigate macrophage biology in health and disease.

STEWARDS OF THE PLANET

Dr. Rei Chemke from the Department of Earth and Planetary Sciences has won the Wolf Foundation's 2025 **Krill Prize for Excellence in Scientific Research**.

Dr. Chemke aims to better constrain the impact of human activity on the climate by analyzing how anthropogenic emissions affect the large-scale flow of the atmosphere, the main factor that controls weather and climate on Earth. Using theoretical understanding in climate models and observational data, he and his team investigate worldwide phenomena from the tropics to polar regions, unravelling the physical mechanisms underlying the changes in the atmospheric flow. Their work has underscored the unequivocal human influence on our climate and provided more accurate assessments of both recent and projected climate changes.

The Krill Prize was established in 2005 in memory of the late Avraham Krill, an active member of the German Jewish expatriate community in South America and an ardent supporter of the State of Israel. It is awarded to 10 scientists each year, for breakthrough research in the exact sciences, life sciences, medicine, engineering, and agriculture.

Prof. Asaph Aharoni, Head of the Department of Plant and Environmental Sciences, has been awarded the 2025 **Landau Prize for Agricultural Economy and Food Security**.

For the last 24 years, Mifal HaPais-Israel National Lottery has awarded the celebrated Landau Prize—named after lottery founder Michael Landau—to four researchers and four artists who have made significant contributions to science and culture.

Prof. Aharoni uncovers the molecular pathways that produce plant secondary metabolites—chemicals that plant species produce to cope with environmental changes and stress. These metabolites hold the secrets to many biological processes that benefit humans and plants alike; they also have practical applications for engineering "green" and healthier ingredients for the food industry, investigating the use of cannabis and other psychoactive drugs for biomedicine, and fighting world hunger and malnutrition.

His work has inspired numerous start-up companies that provide solutions for the agriculture and food industries. "This recognition makes me proud that our foundational research is having a real-world impact—enhancing well-being and promoting sustainable practices in everyday life," Prof. Aharoni says.

Harvard University awarded the 2025 **Max Tishler Prize** to **Prof. *Emeritus* David Milstein** from the Department of Molecular Chemistry and Materials Science.

Prof. Milstein studies catalysis—the process in which the rate of a chemical reaction is increased by a compound that itself remains chemically unchanged. He invented a technique to activate chemical bonds using metal complexes and has developed new catalytic reactions that have resulted in environmentally friendly, sustainable chemical synthetic methodologies, and novel approaches for sustainable energy.

In March 2025, Prof. Milstein, the first Israeli recipient of this award, delivered the Max Tishler Prize Lecture at Harvard—*Design and Applications of Catalytic Reactions for Green Synthesis and Energy*—in which he described various applications for his efficient, "green" reactions in multiple industrial and technological fields.

Among many prestigious honors throughout his career, Prof. Milstein was awarded the Israel Prize in Chemistry and Physics in 2012.

ASAPH AHARONI IS SUPPORTED BY:

- Dr. Monica Rosenzweig Armour
- The Melvyn A. Dobrin Center for Nutrition and Plant Research
- The Charles W. & Tillie K. Lubin Center for Plant Biotechnology
- The Sklare Family Plant Growth Facility Fund
- The Harry and Jeanette Weinberg Center for Plant Molecular Genetics Research
- The Peter J. Cohn Professorial Chair

"This recognition makes me proud that our foundational research is having a real-world impact—enhancing well-being and promoting sustainable practices in everyday life." – Prof. Asaph Aharoni, Plant and Environmental Sciences

"The history of the Earth and life on it has long been an interest of mine and I am happy that my contributions on this topic are being recognized by the scientific community." – Prof. Itay Halevy, Earth and Planetary Sciences

PIONEERING THE FUTURE

Two of the three prestigious **Michael Bruno Memorial Awards** for 2024 recognized the work of Weizmann Institute researchers: **Prof. Maya Schuldiner** from the Department of Molecular Genetics and **Prof. Itay Halevy** from the Department of Earth and Planetary Sciences.

Since 1999, the Israel Institute for Advanced Studies at the Hebrew University of Jerusalem has conferred the Michael Bruno Award annually on three outstanding young Israeli scholars. Named after Israel Prize laureate and former Governor of the Bank of Israel Prof. Michael Bruno, the award honors not only excellence in scholarship, but also the researchers' leadership ability and potential to influence academia in and beyond their specific fields.

Prof. Schuldiner has invented multiple tools that help explain the functions of unstudied genes and proteins, such as robotic microscopy, a technique that tracks protein location and abundance under various conditions. Her creative methods make it possible to study how organelles communicate and respond to changes around them such as stress. Her lab has discovered functions for dozens of uncharacterized proteins in organelles—of enormous importance to biomedical research, as disruptions in organelle function can play a role in metabolic disorders, age-related conditions, cancer, and neurodegeneration.

Prof. Halevy studies the ancient history of Earth—as far back as 4 billion years—to decipher the secrets about how life originated, diversified, and co-evolved with the Earth's oceans and atmosphere. He and his team use geochemical and geological observations in combination with lab-based experiments, theory, and numerical models to probe the processes that created geochemical and isotopic signals and that cause these signals to be preserved in rock. They also examine the use of the preserved signals to reconstruct the chemical and climatic conditions on Earth's ancient surface.

"The history of the Earth and life on it has long been an interest of mine and I am happy that my contributions on this topic are being recognized by the scientific community," Prof. Halevy shares.

Prof. Yonatan Stelzer from the Department of Molecular Cell Biology is one of three winners of the 2025 **Blavatnik Award for Young Scientists in Israel**. The award recognizes his breakthroughs in modeling the intricate process of mammalian embryonic development and advancing human understanding of epigenetics.

Prof. Stelzer's research focuses on a fundamental question in biology—how a fertilized egg gives rise to a complete organism despite all cells sharing the same genetic code. He and his team combine transgenics, single-cell genomics, genome engineering, and powerful computational frameworks, including AI, to create "movies" that capture how genes and cells interact and change. They have constructed a complete quantitative model of early mammalian development and understanding the rules that guide the development process.

Prof. Stelzer's work is shedding light on the process by which distinct tissues emerge within the embryo, making it possible to advance regenerative and therapeutic medicine by enabling clinicians to replace aged or dysfunctional cells with newly differentiated ones.

Conferred by the Blavatnik Family Foundation, the Israel Academy of Sciences and Humanities, and The New York Academy of Sciences, the Blavatnik Awards for Young Scientists in Israel go to outstanding scientists aged 42 or younger, recognized for extraordinary research achievements as well as their potential for future discoveries.

In 2025, Prof. Stelzer also won the Outstanding Young Investigator Award from the International Society for Stem Cell Research, which recognizes early career achievements in stem cell research; and he was elected as a member of the European Molecular Biology Organization (EMBO), a global group of over 2,100 leading researchers that promotes excellence in life sciences research.

RISING MATH MINDS

Prof. Eliran Subag from the Department of Mathematics is one of three winners of the 2025 **Rollo Davidson Prize**, given by the Rollo Davidson Trust at the University of Cambridge in the UK.

Awarded annually since 1976 to early-career mathematicians studying probability theory, the prize commemorates Rollo Davidson, a probablist, alpinist, and fellow-elect of Churchill College, Cambridge, who died in a mountaineering accident at age 25.

Prof. Subag examines the mathematical theory of spin glass models and their geometry. Spin glass theory was originally developed in physics to explain the strange behavior of certain magnetic alloys and has since been applied to a myriad of problems in computer science, neural networks, optimization, and biology.

Prof. Subag is also the 2025 winner of the **Anna and Lajos Erdős Prize in Mathematics** from the Israel Mathematical Union. Established by Hungarian mathematician Prof. Paul Erdős in 1977 to honor his parents, this prize recognizes outstanding Israeli mathematicians under age

MAYA SCHULDINER IS SUPPORTED BY:
- The Blythe Brenden-Mann Foundation
- The Dr. Gil Omenn and Martha Darling Professorial Chair in Molecular Genetics

ITAY HALEVY IS SUPPORTED BY:
- The André Deloro Prize for Scientific Research

YONATAN STELZER IS SUPPORTED BY:
- The Abisch-Frenkel Foundation for the Promotion of Life Sciences

"This recognition reflects the guiding principles of my career, namely a strong commitment to diversity and inclusion, and the belief that everyone should have an equal opportunity to contribute to the scientific community." – Dr. Rachel Mamlok-Naaman, Science Teaching

40 working in pure or applied mathematics and computer science.

The 2024 Erdős Prize also went to a Weizmann mathematician: **Prof. Amir Abboud** from the Department of Computer Science and Applied Mathematics.

In his research on Theory of Computation, a branch of computer science and mathematics that deals with the capabilities and limitations of computers, Prof. Abboud has created new theoretical tools for answering fundamental questions that computer scientists and mathematicians ask when tackling a complex problem: "How hard is it to solve?" and "What is the most efficient way of solving this?"

He draws inspiration from the practical problems algorithm developers are currently working on in areas like big data and bioinformatics. His method of using natural problems that developers are actively trying to solve has created a refreshing approach to complexity theory and the science of "hardness."

THE ORIGINS OF IMMUNITY

Prof. Rotem Sorek from the Department of Molecular Genetics is the winner of the

2025 **Gruber Genetics Prize** from the Gruber Foundation at Yale University.

Awarded annually since 2001, the Gruber Genetics Prize honors up to three scientists for fundamental insights in all aspects of genetics. The 2025 prize recognizes Prof. Sorek's "groundbreaking discoveries of scores of anti-viral defense systems in bacteria and their evolutionary connections to our own innate immune system."

Prof. Sorek studies the intricate mechanisms underpinning bacterial immunity. His work has revealed ancient evolutionary origins of components within the human immune system intertwined with the protective strategies encoded by bacteria and which shed light on the sophisticated communication systems viruses employ.

This year, Prof. Sorek was also elected as a member of the Israel Academy of Sciences and Humanities, as well as an International Member of the US National Academy of Sciences, the latter of which awarded him its 2025 **Selman A. Waksman Award in Microbiology**, recognizing major advances in the field.

LEADERS IN LEARNING

Dr. Rachel Mamlok-Naaman from the Department of Science Teaching is the 2025 recipient of the **American Chemical Society Award for Encouraging Women into Careers in the Chemical Sciences**. Established by the Camille and Henry Dreyfus Foundation in 1993, the award honors professionals who foster women's interests in chemistry and promote their career development as chemists or chemical engineers.

Dr. Mamlok-Naaman is an educator and researcher in the Department of Science Teaching's Chemistry Group, served as the head of the National Center of Chemistry Teachers in Israel for 20 years, and is a representative for international organizations and projects in the field of chemistry and STEM education. She was the Weizmann coordinator for Horizon 2020, a large EU funding program, and is the external evaluator for European initiatives that work to bolster professional development for chemistry teachers and enhance inquiry, diversity, and systemic thinking in science education.

The award was presented to Dr. Mamlok-Naaman at a ceremony in San Diego, California, in March 2025 in recognition of her "30 years of dedication, energy, and scholarship in encouraging women in Israel to develop their careers as chemistry researchers and high school chemistry teachers."

"I am deeply honored to receive the ACS Award for Encouraging Women into Careers in the Chemical Sciences," Dr. Mamlok-Naaman says. "This recognition reflects the guiding principles of my career, namely a strong commitment to diversity and inclusion, and the belief

that everyone should have an equal opportunity to contribute to the scientific community."

Prof. Ron Blonder from the Department of Science Teaching has been honored with the **Excellence in Mentoring Award** for 2025 from the National Association of Research in Science Teaching (NARST), an organization whose goal is to help all learners achieve science literacy by promoting research in science teaching and education and dissemination of research-based knowledge.

The annual award recognizes a member of the NARST community as an "exceptional mentor" for his or her impact on the personal and professional growth of graduate students.

Prof. Blonder specializes in the professional development of chemistry teachers, and using innovative technological tools and environments. Her work examines how engaging with current chemistry research and integrating technology into lessons can improve teachers' self-confidence and expand their knowledge and teaching skills.

She currently serves as Head of the Chemistry Group in the Department of Science Teaching, the Educational Director of the Rothschild-Weizmann Program for Excellence in Science Teaching, and the Head of the Early Career Science Teachers Unit. She is co-Editor-in-Chief of the *International Journal of Science Education*.

"For me, mentoring means guiding my students toward excellence in research and teaching—even through personal, systemic, and national hardships. I deeply believe in enabling every member of my group to reach their fullest potential, opening the way for their future impact in academia and in leadership roles within the education system. This award is especially meaningful to me, and I deeply appreciate this recognition of my mentoring work," Prof. Blonder says.

"For me, mentoring means guiding my students toward excellence in research and teaching—even through personal, systemic, and national hardships. I deeply believe in enabling every member of my group to reach their fullest potential." – Prof. Ron Blonder, Science Teaching

Supporting solutions that come from science

The Judy and Sam Weiss family story

By Tamar Morad

Judy Garb Weiss began to advocate for environmental protection as a young adult in Boston. Years later, after emigrating with her family to Australia and working for Greenpeace Australia as its marketing director, she recalls, "We used to say, 'It's 11 minutes to midnight.' But today, I would say 'It's a quarter past midnight.' We're still here, but the degradation of the planet is well underway."

A visionary donation by Judy and her husband Sam to the Weizmann Institute of Science's new Institute for Environmental Sustainability (IES) comes at an important and timely moment. Their gift will fund studies across all seven of the flagship project's research centers, from food security to sustainable materials, climate research, biodiversity and ecosystems, renewable energy, environment and health, and marine research.

"Given the urgency to find solutions in the field, having partners like the Weisses who are personally deeply committed is inspiring. Their very generous contribution will give our scientists the freedom to pursue innovative ideas and critical research avenues, generating important new knowledge that will translate into solutions," says Prof. Ron Milo, Director of the IES and a member of the Department of Plant and Environmental Sciences.

"Judy's [initiatives] reflect a special kind of mindset focused on investing in a better future, and proactively advancing humanity," says Weizmann Institute President Prof. Alon Chen.

In recognition of their generosity, Judy and Sam were inducted into the prestigious President's Circle, an honor given to Weizmann Institute supporters who have surpassed a significant giving milestone. The induction ceremony took place in Chicago at the Institute's Global Gathering in May 2025. Sam recently stepped into the role of Chair of Weizmann Australia, replacing Stephen Chipkin.

"Judy's initiative to help create a Weizmann community in Australia, and now the Weiss family's major gift to environmental research—which will help ensure a more sustainable future for the planet—reflect a special kind of mindset focused on investing in a better future and proactively advancing humanity," says Prof. Alon Chen, Weizmann Institute President. "It energizes me to have people like Judy, Sam, Schuyler, and Bryony in our global circle."

In the timespan between Judy's days of environmental activism and this milestone of generous giving lies a special story, reflecting lives lived with a commitment not only to the environment, but to family, community, education, Israel, and their Jewish heritage.

"We have lost precious time to address environmental problems and I really do think the solutions will come from science," says Judy. "Stemming the tide of catastrophe requires a concerted effort across all scientific disciplines. The Weizmann Institute's hallmark integrated research structure—a flagship project with interactive parts—will provide powerful interdisciplinary synergy. For us, finding environmental solutions is not solely about benefitting humanity but rather about saving all living things. It personally gives me great joy that our family now has the means to contribute to Weizmann to advance this goal."

Adds her son, Schuyler, "The destruction is universal—it's on every continent, and indiscriminate. It affects you whether you are an owner of a multi-million-dollar home in Pacific Palisades, California, or living in a trailer park when a hurricane hits. I think of the gift to Weizmann as a family project, which also makes sense because the environment is a multi-generational problem. In my generation there is greater awareness of climate change and what it has unleashed on the world than perhaps the generation before—though we were instilled with the values of our parents who were and are very much aware. My hope is that my children's generation will be even more determined to address the problem."

Rooted in strong values

Judy's father owned a pharmacy in Newton, Massachusetts, where she and her brother worked during school vacations. "My parents, from very humble immigrant beginnings, took every opportunity to succeed in post-WWII America," she says.

(From left) Schuyler. Judy, Bryony, and Sam Weiss. "I think of the gift to Weizmann as a family project," Schuyler says.

Judy and her brother both attended private schools in Boston. Her brother would eventually become a physician, while Judy, after an undergraduate degree in psychology from Harvard University, received an MBA from Harvard Business School.

She then moved to New York, where she met Sam, also a Harvard grad and a native of New Jersey. Before they married, Sam told her about his abiding commitment to Israel and his readiness to serve in the IDF if Israel were in crisis. He also said he planned to retire early in order to have some time to give back to the community. He wanted to make sure Judy was comfortable with both of these intentions, which she was. Sam attained an MBA from Columbia University Business School just before their first child, Schuyler, was born.

Early in their marriage, Judy launched her own strategic marketing firm, while Sam advanced up the corporate ladder. Over the years, the family relocated several times for Sam's work, starting with a move to Europe in 1983—first to England, then back to New York, followed by Australia, Sweden, The Netherlands, and returning to Australia in 2000, the family home ever since. Throughout these years of travel, Judy consulted on a range of corporate marketing initiatives and volunteered on not-for-profit boards, while also busily establishing a home life for Sam, Schuyler, and daughter Bryony, born in London.

Sam went on to a successful career in consumer products, education, and technology, where he held a series of senior management roles. In Australia, he became the Chairman of Altium Limited, a software company that makes tools for engineers to design the layout of printed circuit boards. He and his colleagues built Altium into the global market leader in its field, and its products are used today in the automotive, aerospace, defense, and telecommunications industries. The company was recently acquired by a Japanese semiconductor firm.

While Sam did not join the IDF, he did devote himself to his community. He was the volunteer president of The Benevolent Society, the oldest charity in Australia, which helps people at risk, including Indigenous Australians; chairman of Open Universities Australia, which provides online higher education, accessible to all; and is a highly engaged Board member of their synagogue. He also served as chairman of The Sydney Festival, the city's major annual arts and culture celebration, and took on volunteer leadership roles for other arts and culture initiatives.

> "I can honestly say that this is a dream come true for me," says Judy, "because I never thought I'd be in a position to be able to give in this way, and to two things that I care about so passionately—the environment and the Weizmann Institute."

While living in The Netherlands, Judy began to rediscover her love of art and, upon returning to Australia, attained a BA degree in Fine Arts at the National Art School in Sydney in 2005. She subsequently embarked upon her second career, as a professional artist, and has exhibited her work since 2007.

Weizmann connection

Israel and the Jewish world were always present in Judy's life—but it was around this same time that she wanted to do more. "Growing up in Boston and later at Harvard, I always knew about the Weizmann Institute—in fact I don't remember a time when I didn't know about Weizmann. It was just part of my vocabulary and that of my parents; we all admired its standard of excellence and international standing. In Australia, however, Weizmann had very little name recognition, even among the Jewish community, whereas other Israeli institutions and organizations were better known and supported."

In 2009, Judy joined a group of friends to create Weizmann Australia, with Stephen Chipkin as Chair and Rina Michael as Executive Director. Judy's early efforts were crucial to ensuring a Weizmann presence in the country, and to expanding its circle of support; in particular, she helped lead a successful Weizmann Australia mission to the campus in Rehovot in 2015.

Judy recalls being inspired in those early years of Weizmann Australia by a visit from Institute Prof. Ada Yonath to Australia in 2010, shortly after she won the Nobel Prize in Chemistry for her seminal work on mapping the ribosome. Prof. Alon Chen was also an early and inspiring visitor who made a lasting impression.

More recently, the sale of Altium "gave Sam and me the means to consider substantial philanthropy," says Judy. "And our decision was pre-made; we knew we'd give to the Weizmann." Just as they began planning their gift, they learned that the Institute had launched a new sustainability initiative. Schuyler and Bryony were immediately on board; it was a unanimous family decision.

"I can honestly say that this is a dream come true for me," says Judy, "because I never thought I'd be in a position to be able to give in this way, and to two things that I care about so passionately—the environment and the Weizmann Institute."

Adds Schuyler, "In my mind, if we don't get this right—fix the climate, steward the environment—nothing else will matter. The pending crisis comes with ample warning signs, and in Australia they can't be ignored—the drought, the wildfires, the fact that tropical cyclones head farther south than ever before, and the dying of the coral reef."

Passing it down

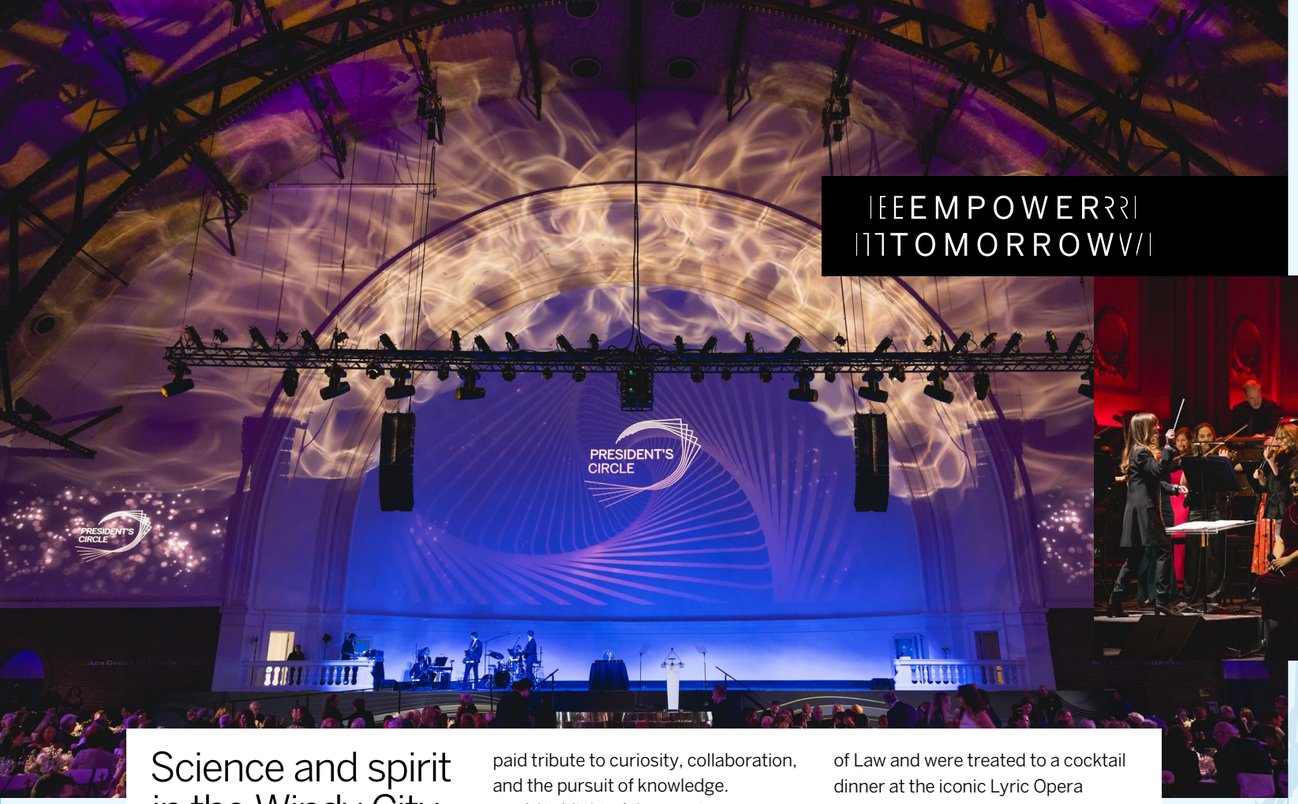
Schuyler and Bryony, two years her brother's junior, both received their undergraduate degrees from the University of Sydney. Schuyler obtained a degree in Chinese and embarked on a law degree. He soon left law school to pursue his dream of a career in the film industry and has enjoyed a long association with Australian filmmaker Baz Luhrmann. Recently Schuyler was nominated for an Academy Award as the producer of Luhrmann's biopic, *Elvis*. In the interim, Schuyler lived in New York for more than a decade, where he met his wife, Danielle.

Today, the couple and their two children live on Australia's Gold Coast, the growing epicenter of the Australian film industry.

Bryony studied psychology and linguistics as an undergraduate, while serving as President of the Sydney University Drama Society. She went on to attain an MBA from the University of Technology Sydney. Bryony has had a successful marketing career in New York and Australia, most recently in IT, consulting on UX design, identifying consumer needs and behaviors, and translating them into products and services that meet these requirements. She lives in Sydney with her husband, Simon, and their two children. A busy working mother, Bryony also serves as president of the parent body in her children's school.

> "Stemming the tide of catastrophe requires a concerted effort across all scientific disciplines. The Weizmann Institute's hallmark integrated research structure—a flagship project with interactive parts—will provide powerful interdisciplinary synergy," Judy explains.

Since October 7, Judy and Sam have become major advocates for Israel within their Jewish and non-Jewish circles of friends. Judy has taken on as her personal mission "an incessant email campaign educating people about Israel's reality," offering facts and data to counter what she sees as a skewed media bias against Israel. Turning the tide of rising antisemitism and anti-Israel sentiment is "just as urgent" she says, as confronting the environmental crisis, adding: "For our family, supporting the Weizmann Institute is the best antidote we can think of to mitigate against these incredible challenges."



Science and spirit in the Windy City

Celebrating the launch of Empower Tomorrow—the Weizmann Institute's global campaign for the future of humanity

The 2025 Weizmann Institute Global Gathering lit up Chicago from May 18–21, bringing together friends and supporters from around the world for three memorable days of science, inspiration, and celebration.

The Global Gathering is a hallmark event, shining a spotlight on the pioneering research that defines the Weizmann Institute and honoring the visionaries who make it possible.

Festivities opened with an elegant gala at the Griffin Museum of Science and Industry, where actress and neuroscientist Mayim Bialik, who served as host and master of ceremonies, spoke about the importance of science and the vital role of the Weizmann Institute. Her words set the tone for an event that paid tribute to curiosity, collaboration, and the pursuit of knowledge.

A highlight of the evening was the momentous announcement of the Weizmann Institute's "Empower Tomorrow" global campaign—the most ambitious fundraising effort in the Institute's history. This 10-year initiative will serve as a vehicle for change, driving scientific discovery through philanthropy. By investing in the people, programs, and infrastructure that advance breakthrough research, the campaign invites partners around the world to help shape a future defined by knowledge, innovation, and impact.

Throughout the week, guests were immersed in the bold, multidisciplinary science unfolding at the Institute. Ten leading Weizmann researchers gave captivating presentations, transforming complex topics—from the mysteries of the brain to the power of AI and the secrets of molecular biology—into riveting, visually rich stories.

Cultural and social highlights were also woven throughout the itinerary. Guests explored architecture and art at the Northwestern Pritzker School of Law and were treated to a cocktail dinner at the iconic Lyric Opera House of Chicago, featuring a lively performance by the genre-defying ensemble MUSE/IQUE.

The Global Gathering concluded on a high note with a festive closing gala and the President's Circle induction ceremony at the Navy Pier's Aon Grand Ballroom. Hosted by Emmy Award–winning TV personality Mo Rocca, the evening honored generous Weizmann supporters—recognizing their deep commitment to science and society.

From the opening toast to the final performance, the 2025 Global Gathering was a moving celebration of innovation, philanthropy, and shared purpose. It was also a meaningful opportunity for donors, scientists, and Institute leadership to mingle, exchange ideas, and simply enjoy time together, creating a truly wonderful experience for all.

Special thanks to the American Committee for the Weizmann Institute of Science for their partnership in producing this extraordinary event.

(From left) Dr. Arabella Duffield, Annie Morris, Prof. Ruth Scherz-Shouval, Hayley Sieff, and Tania Bryer OBE (*Photo by Justin Grainge Photography*)

Celebrating women in science and the arts

In May 2025, Weizmann UK hosted its biennial *Women in Science & The Arts* lunch at the Design Museum in London—an inspiring afternoon celebrating Israeli women in science and the community of supporters who champion their success.

The event featured presentations by acclaimed British artist Annie Morris and Weizmann cancer researcher Prof. Ruth Scherz-Shouval, followed by a lively on-stage conversation between Prof. Scherz-Shouval and international broadcaster Tania Bryer OBE, who also served as the event's master of ceremonies.

Morris spoke movingly about the emotional depth of her creative process and how art has provided strength through personal loss and adversity. Prof. Scherz-Shouval offered fascinating insights into her research on the tumor microenvironment and shared her journey as a scientist navigating the challenges of a competitive field.

Reflecting on her own experience, Prof. Scherz-Shouval described how receiving a Women in Science postdoctoral award early in her career offered not just financial support but valuable encouragement.

"It was a form of recognition," she said. "I tell young scientists that if this is something you really want, you'll find a way to do it."

Thanks to the generosity of the attendees, the event raised vital funds for the Women's Postdoctoral Career Development Award in Science, a transformative program that enables outstanding Israeli women researchers to conduct fellowships abroad, in addition to providing financial and professional development support to help them return to Israel and pursue a career in academia.

The lunch was hosted by Dr. Arabella Duffield, Chair of Weizmann UK, and Trustee Hayley Sieff.

A new Pasteur-Weizmann tech-transfer initiative

Marking an exciting new chapter in their historic partnership, the Weizmann Institute of Science and the Institut Pasteur in Paris recently signed a memorandum of understanding to advance innovation and technology transfer between the two institutions. The agreement was formalized by Prof. Irit Sagi, Vice President for Innovation and Technology Transfer at the Weizmann Institute, and Prof. Yasmine Belkaid, President of the Institut Pasteur.

This led to the launch of a collaborative malaria research project between Dr. Chetan Chitnis, Head of the Malaria Parasite Biology and Vaccines Unit at Institut Pasteur, and Prof. Neta Regev-Rudzki of the Department of Biomolecular Sciences at the Weizmann Institute. As part of this project, Regev-Rudzki lab members, research associate Daniel Ben-Hur and PhD student Edo Kiper, visited the Chitnis laboratory in October 2024 to learn directly from Dr. Chitnis, an expert in molecular techniques and imaging methods for studying drug interactions and parasite resistance. This exchange has already borne fruit, resulting in a joint publication by scientists from the two teams.

The partnership continued in May 2025 when Prof. Regev-Rudzki visited the Pasteur Institute. During her two-day visit, she met with Dr. Chitnis and his team to further advance their research projects, and engaged in scientific discussions with students and postdoctoral researchers. She also met with infectious disease scientists from various departments to explore potential new collaborations. A highlight of the visit was Prof. Regev-Rudzki's seminar, where she presented her latest research on malaria and cell communication, and which sparked a lively and stimulating discussion.

Reflecting on the collaboration, Daniel and Edo shared: "Our work with the Chitnis group has been both productive and enjoyable. We also had the opportunity to present our findings to Dr. Najma Rachidi's molecular parasitology team and to exchange ideas with Dr. Julia Bos, a research engineer in Pasteur's Bacterial Genome Plasticity Unit. Both are interested in antimicrobial peptides, which could open the door to promising future collaborations."

While there is still progress to be made, the project has recently attracted the attention of the not-for-profit partnership Medicines for Malaria Venture (MMV)—a promising indication of its potential impact. The project is now being handed over to Yeda Research and Development, Weizmann's tech-transfer arm, which will continue driving it forward.

The two research teams meet at the Institut Pasteur. (From left) Chetan Chitnis, Eric Legrand, Francisco Jose Martinez Blazquez, Daniel Ben Hur, Arunaditya (Adi) Deshmukh, Nur Elyza Binte Zulkifli, Edo Kiper.

FRANCE

CANADA

Hymie Mida (left) receives a certificate from Prof. Roee Ozeri in recognition of his gift to establish the Chaim Mida Professorial Chair in Physics. (*Photo by Jake Stendel*)

Honoring Hymie Mida's legacy as a champion for physics

Weizmann Canada hosted a dual celebration in Toronto in April 2025 to honor Mr. Hymie Mida's visionary philanthropy, which established the Chaim Mida Professorial Chair in Physics, and to toast its inaugural incumbent, Prof. Roee Ozeri from the Department of Physics of Complex Systems, who is also the Weizmann Institute's Vice President for Development and Communications.

This dedicated chair builds on Hymie's enduring legacy of support for scientific excellence, which follows his creation of the Chaim Mida Prizes in Theoretical Physics in 2016.

"I have been interested in science since my youth, but my career path changed when I was in my 20s, and I became an accountant," Hymie shares. "But today, 50 years later, in establishing this professorial chair in physics, I am proud to support its first incumbent, Prof. Roee Ozeri, in his adventure of discovery in the field of quantum physics."

Prof. Ozeri led the Weizmann team that built Israel's first quantum computer in 2022, one of only about 30 in the world at the time.

"Without the discoveries of physics, we wouldn't have the technology we sometimes take for granted, like MRI machines, lasers, or smartphones," Hymie says. "Physics is about understanding how the universe works. It is gratifying to do what I can to help the Weizmann Institute accelerate progress through research."

"It's truly inspiring to see Hymie's passion for science come full circle in such a meaningful way," says Susan Stern, CEO of Weizmann Canada. "By endowing a chair in physics, he is honoring a lifelong love of discovery and investing in the future of research and innovation. His generosity will have an impact far beyond what we can imagine today, and we are deeply appreciative."

Prof. Ozeri also expressed his heartfelt gratitude to Hymie for a gift that empowers bold science and attracts world-class talent.

The celebration, graciously hosted by Weizmann Canada's National Board Chair, Dr. Arthur Slutsky and Mrs. Myra Slutsky, Toronto Chapter Member, was attended by over 40 friends and supporters.

Science, sustainability, and connection

Weizmann Institute President Prof. Alon Chen, accompanied by marine microbiologist Dr. Einat Segev, visited Uruguay and Brazil in April to introduce the new Institute for Environmental Sustainability. In Montevideo, Punta del Este, and São Paulo, they presented the Weizmann Institute's initiative as a firm commitment to using science to directly address urgent issues such as climate change, biodiversity loss, and pollution. Hundreds of friends from the region attended inspiring talks that highlighted the threats facing a rapidly changing planet and the Institute's tools to help address this global challenge.

In March, the Latin American Committee for the Weizmann Institute of Science celebrated the 40th anniversary of its Mexican Association of Friends. Prof. Chen, along with Latin American Committee CEO Dany Schmit, traveled from Israel to meet with the Mexican Friends who are an essential part of this achievement. The event recognized the contributions of the 12 outstanding presidents who have led the group, now under the leadership of Elías Harari, as well as the hundreds of volunteers whose sustained commitment has generated projects to support Weizmann science and its connection with the Mexican community.

"It is an honor to be in Mexico City with one of our oldest friends' associations. I congratulate you on your leadership and the successes achieved over these years on behalf of the entire Institute and Israeli science," Prof. Chen said.

The ties between the Weizmann Institute and Latin America were further strengthened through a student mission. Three PhD students—Jenny-Lee Mathias (sustainability), Sonu Kurien (neuroscience), and Carmel Sochen (immunology)—visited Argentina and Brazil in a maiden trip to the region for all three. Together, they presented their exciting research to different audiences, including high school and university students, leaders in innovation and biotechnology, entrepreneurs, and friends from the area.

In April, Prof. Chen visited Santiago, Chile, where he discussed the transformative impact of artificial intelligence on scientific research. The visit helped solidify a new group of Weizmann friends led by Ariela Agosin, a prominent community leader and the new president of Weizmann Chile.

"The dynamic and enriched relationship between the Weizmann Institute and the Latin American region creates bridges that connect us with inspiring people and common goals," said Dany Schmit following the event.

(Top, from left) Elias Harari, Prof. Alon Chen, Carol Perelman, and Dany Schmit in Mexico City. (*Photo by Veronica Mercado*)

(Bottom, from left) Dany Schmit, Florencia Arbiser, Tamar Hahn, Prof. Alon Chen, Dr. Einat Segev, Guido Dercauttan in Punta del Este. (*Photo by Gustavo Alfonzo*)

Peak science at the Aspen Discovery Forum

Last year, the American Committee for the Weizmann Institute of Science hosted some of the Institute's brightest minds, longtime supporters, and new friends at the Aspen Discovery Forum—a special three-day event in the heart of Colorado's beautiful Rocky Mountains—to celebrate the inspiring vision, values, and scientific developments of the Weizmann Institute.

Co-chaired by American friends Blythe Brenden, Karen Davidson, and Steven Romick, the program featured in-depth talks on the Institute's history, current direction, and future promise of key research areas. Weizmann President Prof. Alon Chen, Vice President for Development and Communications Prof. Roee Ozeri, and a faculty delegation led a series of thought-provoking sessions addressing key scientific and global challenges, including environmental sustainability, artificial intelligence, single-cell genomics, and science education. Prof. Ron Milo presented data-driven strategies for advancing sustainability research, while Dr. Einat Segev shared insights into microbial ecosystems and their relevance to planetary health. Prof. Ozeri introduced the Institute's AI initiative, followed by presentations from Dr. Sivan Refaely-Abramson and Prof. Ido Amit on solar materials and immune system reprogramming.

At a private dinner hosted at Aspen's celebrated Eden Gallery, Prof. Ozeri reflected on the shared attributes of scientific and artistic thinking—both shaped by abstraction, experimentation, and the pursuit of greater understanding. Guests enjoyed a meal and an evening of conversation where science, culture, and creativity converged.

The forum concluded with a dinner hosted at Karen Davidson's home and underscored the urgency of cross-sector collaboration and our collective responsibility to turn scientific insight into societal impact.

This unique gathering offered more than engaging discussions and personal connections—it brought the Weizmann voice to America, highlighting the importance of basic research, the strength of the Institute's distinct approach, and its commitment to improving and saving lives around the world.

(From left) American Committee CEO Dave Doneson, Karen Davidson, and Prof. Alon Chen addressing guests at Karen Davidson's home during the Aspen Discovery Forum's closing dinner. (*Photo by Matt Power Photography*)

(From left) Prof. Alon Chen, Mrs. Dorothee Bär, and H.E. Ambassador Ron Prosor at the Israeli Embassy in Germany.

EUROPE

Deepening ties and welcoming new friends across Europe

Marking its 65th anniversary this past year, the European Committee of the Weizmann Institute of Science (ECWIS), chaired by Bob Drake, is celebrating a period of revitalization and growth, as its societies expand Weizmann's presence and plant new seeds of connection across Europe.

In March 2025, the Swiss Society of Friends of the Weizmann Institute, chaired by Eric Stupp, hosted an exclusive gathering marking this milestone anniversary. Guests learned about the impact of Weizmann research and the foundation of the Institute's work: collaboration among scientists, friends, and supporters, who share a commitment to driving innovative science, advancing knowledge, and shaping a better future.

The Weizmann Young European Network, chaired by Dr. Alexandra Vallon-Eberhard, launched a series called "Impulse Events" to engage next-generation ECWIS supporters and encourage their curiosity, passion, and sense of purpose through advancing science.

In May 2025, the Danish and Swedish Societies of Friends each heralded an exciting new chapter by celebrating their recent restructuring with special lectures from Prof. Yohai Kaspi of the Department of Earth and Planetary Sciences. The Danish Society is now under the leadership of Dan Moalem, and the Swedish Society is headed by its new chair, Robin Dangoor. Most recently, Marc Melviez was elected as Chair of the Belgian Society of Friends.

ECWIS welcomes our new lay leaders and applauds the societies' renewed energy, evolving structures, and continued growth. We thank the former chairs, Prof. Ole Farver (Denmark), Lennart Schuss (Sweden), and Christian Hendboeg (Belgium) for their many years of dedication, leadership, and support.

In September, the Embassy of Israel in Germany hosted an event aimed at strengthening the collaboration between leading German foundations and the Weizmann Institute. H.E. Ron Prosor, Israel's Ambassador to Germany, opened the evening with heartfelt remarks emphasizing the critical role of the Institute and the importance of supporting its mission, particularly in these challenging times.

The event featured a compelling address by Weizmann President Prof. Alon Chen, who discussed the Iranian missile attack on the Weizmann campus in June, the ongoing recovery efforts, and the Institute's vision for the future. His presentation sparked thoughtful dialogue and resonated strongly with the audience, which included Mrs. Dorothee Bär, Germany's Federal Minister of Research, Technology and Space. This gathering underscored the significance of diplomatic engagement and the potential of international collaboration to advance pioneering research for the future of humanity.

ISRAEL

Science, community, and impact: beyond the lab

From rooftop conversations about space and epigenetics to musical performances and thought-provoking talks with leading Israeli public and cultural figures, recent events hosted by the Israeli Friends Association offered a vibrant fusion of science and society—bringing together a dynamic, engaged community.

WeizmannVibe, the Israeli Friends' next-generation forum, hosted two standout gatherings in 2025. In February, members met at the Tel Aviv Concert Hall for a fascinating talk by plant scientist Prof. Tamir Klein about the secret underground dynamics of trees, which was followed by a powerful and energetic concert by Israeli performers Mosh Ben-Ari and Hanan Ben Ari (no relation).

In May, the group gathered once again—this time under the open Tel Aviv sky—to explore science beyond the visible realm. Dr. Efrat Shema discussed how lifestyle and environment can influence gene expression, while astrophysicist Dr. Sagi Ben-Ami shared how instruments developed in his lab are advancing space research worldwide. Rising musician Alma Gov provided moments of soulful reflection through her memorable performance, which complemented the scientific inspiration of the evening.

Meanwhile, the Israeli Friends' Science Forum hosted some of the country's most distinguished minds. Prof. Jacob Frenkel, former governor of the Bank of Israel, gave journalist Keren Marciano a thoughtful interview on stage about economic resilience in wartime, in which he emphasized the importance of investing in science as a strategic driver of national strength. The event also featured Dr. Meital Oren-Suissa, whose research on sex-based differences in pain perception offered fascinating insights into the intersection of biology and human experience.

Prof. Yonina Eldar—2025 Israel Prize laureate in Engineering Research and Engineering Sciences—took the spotlight at an exciting evening celebrating brilliance and impact. She inspired the audience with her remarkable scientific achievements, personal journey, and mission to expand inclusiveness within the academic world. Later that night, *Fauda* co-creator and journalist Avi Issacharoff shared gripping stories from his fieldwork in Gaza.

This combination of inspiring programs, active member engagement, and a strong sense of community continues to spark meaningful ideas and momentum in support of science.

(From left) Chair of the Israeli Friends Association Shimshon Harel, Science Forum member Rami Ungar, Prof. Jacob Frenkel, and Prof. Alon Chen. (*Photo by Ohad Herches*)

Weizmann World

Devoted to development

From Mexico to Weizmann to running his own lab in the US, Dr. Alejandro Aguilera Castrejón is engineering futuristic ways of growing mammalian embryos

By Noga Martin

Dr. Alejandro Aguilera Castrejón expected to turn his love of animals into a career studying wildlife in the jungle. But a single course on developmental biology, during his BSc studies at Universidad Nacional Autónoma de México (UNAM), redirected his interest from creatures of the wild to molecular biology and embryo development.

When searching for a lab in which to work on his undergraduate thesis, Dr. Aguilera Castrejón found a group at UNAM's Instituto de Fisiología Celular that was working with stem cells, reprogramming bone marrow cells into neurons. "From there, my whole career has been devoted to development. I really enjoy it," he says.

He knew little about the Weizmann Institute or Israel when he was accepted to the Weizmann School of Science. He spent the next eight years pursuing his MSc (2019) and PhD (2024) in the lab of Prof. Jacob Hanna in the Department of Molecular Genetics, where he was a fundamental part of the group's pioneering discoveries in mammalian development, which attracted international attention in scientific circles and the mainstream media.

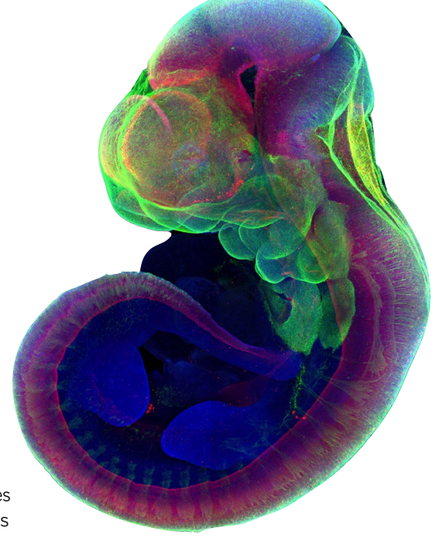
As a member of the Hanna lab, Dr. Aguilera Castrejón and his colleagues engineered a system that makes it possible to grow mouse embryos outside the uterus from Day 5 after implantation to Day 11—the period of embryo development at which all the mouse's organs form. Then they took the research a step further and successfully created an embryo from stem cells, which they were able to grow until Day 8, at which point the embryos had the precursors of a brain, a spinal cord, a heart, and other organs.

"This is the only stem cell model thus far that is capable of growing organs, of recapitulating the development of the mouse from Day 5 to Day 8," he explains.

Engineering growth

The team's astonishing success is the result not only of creativity and ambition, but also engineering. As Dr. Aguilera Castrejón explains, the group spent "a lot of time" working with an engineer to construct a system that allowed "precise control of gas flow, concentration, and pressure"—all vital to embryo development. In addition, they spent years developing a viable growth medium, composed of serum (blood spun down to remove the cells but retain the metabolites) and supplements used for cell cultures.

The embryos are placed in a bottle, which sits in a metal drum, constantly spinning, allowing oxygen to mix with the growth medium and deliver nutrients to the body of the embryo—an artificially induced flow that compensates for the lack of the maternal circulatory system that nourishes embryos *in utero*.



Apart from achieving what had until then been impossible—growing mouse embryos *ex utero* and creating embryos without sperm or eggs—the system has enormous potential for human biomedical research.

"It allows you to do experiments in a critical period of mammalian development, when the organs are established," Dr. Aguilera Castrejón says. "Right now, it's almost impossible to do experiments in mammals at this very early stage. This will give us a greater understanding of development and help scientists recapitulate the differentiation of tissues to create tissues for cell replacement."

"In the distant future, I can envision it becoming possible to detect a genetic defect *in utero*, remove the embryos for gene therapy or cell therapy, and continue growing the embryo *ex utero* until it's born. This would be a way to treat congenital diseases," he explains.

Dr. Aguilera Castrejón also points out that some scientists use embryo models to create better organs for transplants—not to mention cultivating blood from stem cells.

"Embryos can generate blood, so we could try to generate stem cell embryos that will grow to a more advanced stage, then take some blood progenitors, which are much better for transfusion than cells created *in vitro*."

Collaborative culture

Since March 2024, Dr. Aguilera Castrejón has been building on his training at the Weizmann Institute as head of his own lab at the Howard Hughes Medical Institute's Janelia Research Campus in Virginia. Discussing his decision to open a lab at a research institution rather than an academic one, he notes that at HHMI, he is not required to teach, so he can devote 100% of his time to research. He also appreciates the instrumentation experts at HHMI and hopes to combine his *ex utero* setup with the microscopes they are designing, to observe mammalian development in real time.

He also appreciates the Howard Hughes culture. "Groups are small, three to five people, to make sure that PIs have time for students," he says, adding that—like Weizmann—the culture is highly collaborative.

One of his current goals is to see a mouse develop *ex utero* and be born alive after a normal gestation of 19 days. "I dream of seeing if it's possible to grow a mammalian embryo completely independent of the mother. To create a system capable of that, you really need to understand development—metabolism as well as mechanics."

He and his team are now manipulating mechanics in the embryo—a different approach to the widespread focus on genes and genomics. "In our embryo culture system, the metabolism of the mother and the culture are completely separate, allowing us to understand what the mother gives a natural embryo *in utero* that allows it to grow, and the differences between our *ex utero* embryos and natural conditions," he explains.

He and a colleague in the US are also studying metabolomics in the whole body of the embryo as well as in the growth medium, to understand what the embryo consumes from the medium and what it excretes.

> "I don't try to do 'safe' projects that I know will work. I learned [at Weizmann] to take on tough projects that not many people can tackle."

In another project, Dr. Aguilera Castrejón and his team are using light to manipulate the skeletons of embryos, which could make it possible to cause mechanical perturbations in the embryos. These experimental systems will help them better understand development, and in the future build *ex utero* devices that can mimic *in utero* development more closely.

Going big

Dr. Aguilera Castrejón grew up in the suburbs of Mexico City. His parents are furniture makers, but he always knew he wanted to study and became the first member of his family to pursue higher education.

At left, image of a developing mouse embryo. Above, Dr. Alejandro Aguilera Castrejón. (*Photo by Elidet Gomez*)

"They always encouraged me to follow my interest. They're very hard-working people, and I think that helped me a lot in science," he says.

Reflecting on his years at Weizmann, Dr. Aguilera Castrejón says he still considers it "an extremely good place to do science."

"It was very different from what I was used to... [Weizmann] was my first experience doing top-level science and it basically taught me how to do breakthrough science, how to not be afraid of doing something too difficult. I don't try to do 'safe' projects that I know will work. I learned to take on tough projects that not many people can tackle."

The Institute, he says, gave him "many tools to understand or learn how to make the big discoveries. I think that's one of the main things I learned at Weizmann—to focus on big, important questions, not on the small things."

Around campus

Weizmann Institute of Science

Wishing for a year of... Coming together to mark *Rosh Hashana*, the Jewish New Year, members of the Weizmann community wrote down their personal wishes for the coming year and hung them on a 'Tree of Hope' at the heart of campus.

Weizmann Institute of Science

Creatures of comfort: The International Office brought some furry friends to campus in July, wagging tails and all. The therapy dogs met with members of our global community to offer some much-needed warmth, comfort, and puppy love.

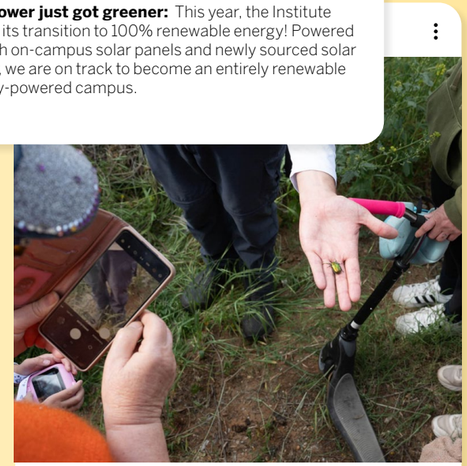
Weizmann Institute of Science

Vibrant volunteerism: Throughout the year, Weizmann scientists and staff volunteered their time to support fellow Israelis, taking on such jobs as crafting wooden toys for children in Gaza border communities, building planters for a shelter for teenage girls, and arranging flowers with elderly residents of a local nursing home.

Weizmann Institute of Science

Our power just got greener: This year, the Institute began its transition to 100% renewable energy! Powered by both on-campus solar panels and newly sourced solar power, we are on track to become an entirely renewable energy-powered campus.

Weizmann Institute of Science



Digging into discovery: The Davidson Institute of Science Education marked Earth Day with a family event, held in partnership with the Society for the Protection of Nature in Israel, featuring nature tours, creative workshops, and student research presentations.

Weizmann Institute of Science

Back to breathing, together: Members of the Weizmann community gathered this summer at the top of the Institute's iconic Koffler Accelerator for a calming Pilates session—the first in a series of mind-body activities designed to provide support, quiet, and healing.

Weizmann Institute of Science

Science meets symphony: Every week, players in the Weizmann Orchestra—students, staff, and scientists—swap their day jobs for musical instruments, practicing for performances both on and off campus.

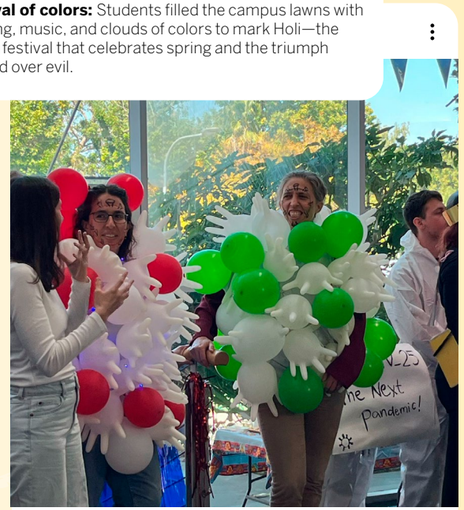
Weizmann Institute of Science

A time for trees: On the Jewish holiday of *Tu B'Shvat*, the Institute hosted a farmers' market with fresh produce from communities near Israel's Gaza border, alongside lectures on sustainability, food security, and gardening. The day concluded with tree planting, in keeping with the holiday tradition.

Weizmann Institute of Science

Festival of colors: Students filled the campus lawns with dancing, music, and clouds of colors to mark Holi—the Indian festival that celebrates spring and the triumph of good over evil.

Weizmann Institute of Science



Science in disguise: The Department of Molecular Genetics set a high bar with their Purim costume competition, featuring viruses, molecules, graphs, and fruit flies.

Weizmann Institute of Science

Fragrances of the Far East: In January, the Chinese Students Committee marked the Chinese New Year with a celebration that included calligraphy workshops and dumpling-making sessions. According to tradition, this is the Year of the Snake, symbolized by innovation, creativity, and thinking outside the box.

Weizmann Institute of Science

Bridging science and solutions: The Institute's Bina (Bridge Innovate Nurture Advance) unit hosted a special translational neuroscience event in October, bringing together leaders from academia and industry to connect lab discoveries with real-world impact. Dr. Eran Harary, Senior Vice President and Global Head of Early Clinical Development at Teva Pharmaceuticals, delivered the keynote on breakthroughs, challenges, and the future of translational neuroscience. He was joined by Weizmann Professors Ofer Yizhar, Igor Ulitsky, and Rony Paz; Dr. Tamar Farfel-Becker of Yeda Research and Development (the Institute's tech-transfer arm); and Weizmann alumna Dr. Niva Russek-Blum, CTO of NeuroSense Therapeutics, for a panel on turning neuroscience insights into therapies and innovations. The conference was a joint initiative organized by Bina's Innovation and Translational Science unit and the Azrieli Institute for Brain and Neural Sciences.

Weizmann Institute of Science

Poised to lead and innovate: In October, the Weizmann School of Science welcomed the first-ever cohort of the MD-PhD Program in honor of Miriam and Aaron Gutwirth, designed to train Israel's future physician-scientists. The day included meetings with faculty and administration, followed by our traditional beer garden on the lawn.

Around campus

Luis Stillman

Lifelong friend of Israel and the Weizmann Institute was on a mission to do good and lived his life to the fullest

The Weizmann Institute of Science lost a dear and cherished friend in September 2024 with the passing of Luis Stillman at the age of 102.

A Holocaust survivor, philanthropist, and passionate advocate for science, Luis was born in 1921 in Budapest, Hungary. The son of a wine salesman, he dreamed of becoming a physician, but due to restrictions that barred Jews from attending medical school, he instead pursued a degree in law at the University of Szeged—granting him a student status that briefly shielded him from military conscription.

On New Year's Eve of 1943, a fortune teller in Budapest said he would not live out the year—an event that would later inspire the title of his memoir, *You Won't Live to See Your Next Birthday*.

This prediction seemed like it was coming true when, a year later, he was sent to a forced labor camp near the Austrian border. From there, he was deported to the Mauthausen concentration camp, where he survived cruel conditions, starvation, and a brutal death march. By the time he was liberated by American forces on May 4, 1945, he weighed just 83 pounds and was suffering from a severe leg infection. Despite his near-death experiences, Luis was determined to live the fullest life that he could live.

He immigrated to Mexico in 1947, where he rebuilt his life with Buba, a fellow Hungarian refugee and Auschwitz survivor to whom he was married for 75 years. Luis rose to prominence as a pharmaceutical executive and became a pillar of the Mexican-Jewish community. He never lost his passion for science and medicine and found his purpose in supporting the Weizmann Institute.

Luis cofounded the Mexican Association of Friends of the Weizmann Institute of Science in 1983, his leadership and charisma forming a network of supporters who are now part of the larger Latin American Committee for the Weizmann Institute. He also served with great dedication on the Institute's International and Executive Boards for over 20 years, traveling to Israel for annual meetings until he was 100 years old.

Luis and Buba supported the breast cancer research of Prof. Sima Lev, as well as projects in chemistry and physics. In 2013, the Institute recognized Luis' dedication by awarding him an honorary doctorate, but he was quick to put the accolade into perspective. "Quoting Michael Sela," he said, "the Weizmann Institute gives me more than I give the Weizmann Institute."

In 2022, friends and colleagues from around the world gathered online to mark Luis' 100th birthday. During this event, Weizmann President Prof. Alon Chen shared: "It is impossible to imagine a Board without Luis and his life partner Buba. They are pillars of our international family."

The story of Luis Stillman, a man with an infectious zest for life who kept a joke book by his bed, embodies the power of the human spirit to triumph over adversity.

"To know the story of Luis Stillman is to know the Jewish story of our time," says Pulitzer Prize-winning journalist Bret Stephens, who is a close friend of the family. Indeed, Luis' memory and his legacy will live on at the Weizmann Institute and in the hearts of all who had the privilege to know him.

Theodore (Ted) Herzl Teplow

Celebrating the principled life of a great friend, philanthropist, and mensch—through and through

Longtime Weizmann supporter and dedicated philanthropist, Theodore (Ted) Herzl Teplow, passed away peacefully in Plymouth, Massachusetts in November 2024, at the age of 96. An active member of the Weizmann family for more than five decades, Ted leaves behind a rich legacy of leadership, generosity, and steadfast support for science, education, and the State of Israel.

He was born and raised in Massachusetts, and excelled academically, graduating first in his class from both Brockton High School and the US Merchant Marine Academy in New York. He served with distinction during the Korean War and retired at the age of 65 from the Navy Reserve with the rank of Commander.

After earning his MBA from Harvard Business School, Ted worked at Crosby Valve & Gage, where he and his cousin Hugh Stone led the manufacturing company to great success. In a move that reflected his commitment to fairness, he implemented one of the first employee stock ownership plans (ESOPs) in the US, ensuring the firm's prosperity was shared with its workforce.

Ted's connection to the Weizmann Institute was deeply personal. His uncle, Dewey Stone, a prominent Zionist activist, was one of the Institute's earliest and most influential champions. Ted carried that legacy forward with zeal. He joined the Weizmann Institute's International Board in 1991, served on the Executive Council (now the Executive Board) from 1993 to 2008, was inducted into the President's Circle in 2001, and was awarded an honorary PhD in 2002.

Together with his son David—also a Board member and former National Chair of the American Committee for the Weizmann Institute of Science—Ted helped advance critical initiatives in artificial intelligence, student housing, and the renovation of the Anne and Dewey D. Stone Administration Building.

"My father was a gentleman and a mensch through and through, who lived an exceedingly disciplined and principled life. He had immense pride in what he accomplished for his company and how he provided for his co-workers, his community, and his family," David recalls. "There was nothing he was prouder of, however, than his Zionist roots—being named 'Theodore Herzl Teplow' certainly helped—his ties and devotion to his uncle Dewey Stone, and his long-standing and loyal participation in the Weizmann family that he loved so dearly."

"Ted was born with the Weizmann 'bug' in his blood," says Prof. Alon Chen, President of the Weizmann Institute. "His good-hearted nature, welcoming smile, and genuine devotion to his life's passions, made him beloved by everyone who knew him, including his many friends within the global Weizmann community. He will be sorely missed."

Ted's philanthropy extended to other causes as well. He served as Chairman of the Board of Hebrew College in Newton, Massachusetts, where he led the search committee that appointed Rabbi David Gordis as President—a decision credited with transforming the school's reach and standing.

Ted is remembered by all who knew him as a true family man, a proud patriot, an avid seaman, and an unfailing gentleman.

He is survived by four of his five children, Rachel, David, Evan, and Jon; his sister Carol; 12 grandchildren; and four great-grandchildren. His daughter, Deborah, predeceased him in 2007 at the age of 46. His wife of 68 years, Charlotte, predeceased him in 2021 at the age of 88.

Raoul de Picciotto

Bidding farewell to a generous and visionary friend, who built bridges between business and philanthropy, East and West, science and society

Raoul de Picciotto, a visionary entrepreneur and generous philanthropist whose support profoundly shaped communal life in Milan and scientific research in Israel, passed away in October 2025.

Born in Beirut in 1929, Raoul earned a degree in business administration from the American University of Beirut, where his lifelong curiosity and spirit of innovation first took root. A forward-thinking entrepreneur from an early age, he established trade relations with the Far East and, in 1960, together with his brother, Robert, relocated their operations to Europe. From there, they grew the family enterprise—focusing on expanding commercial ties with Japan—building bridges between continents and cultures.

Raoul brought the same spirit of connection into his communal engagement in Milan. Having moved there in 1959, he became a quiet yet steadfast pillar of the Jewish community. He and his family played a leading role in funding and completing the full renovation of Milan's Central Synagogue on Via della Guastalla in 1997, lending renewed vitality to a cherished spiritual home. His deep commitment to the dignity of elders inspired the establishment of the Residenza Anziani "Arzaga" for the Milan Jewish community, inaugurated in 2008—an enduring expression of his belief that those who have the means to help, should.

Beyond Italy, Raoul and his wife, Graziella, were steadfast supporters of Israel and dedicated friends of the Weizmann Institute of Science. He served on the Institute's International Board and, in recognition of his outstanding support, received an honorary PhD from Weizmann in 2000. Together, they endowed the Raoul and Graziella de Picciotto Building for Scientific and Technical Support, a cornerstone facility providing the engineering, technical, and logistical backbone essential for pioneering scientific research.

Their philanthropy extended to the Raoul de Picciotto Fund for Campus Maintenance and Infrastructure, an engine of campus renewal, and the Center for Experimental Physics, advancing the Institute's exploration at the frontiers of knowledge.

Those who knew Raoul remember his thoughtful modesty, calm intelligence, and openness to new ideas. He led without seeking attention, guided by a deep conviction that prosperity carries a responsibility to uplift others. His impact—strengthening communities, enabling scientific discovery, and affirming human dignity—endures as a testament to a life lived not for recognition, but for lasting impact.

"Raoul's relationship with the Weizmann Institute reflected his deep belief in science as a force for human progress," his family shared. "He was proud to support a place where ideas could grow into discoveries that change lives."

Raoul is survived by his wife, Graziella, and his sister Jeannette, and many extended family members and friends worldwide. His legacy is tangible: building blocks for communities, for science, and for lives that benefit daily from his vision. In remembering Raoul de Picciotto, we honor an individual who believed in connecting worlds—building bridges between business and philanthropy, East and West, science and society—and, in doing so, helped make them better.

Prof. Israel Silman

Prof. Israel Silman's work revealed the structure and function of a key brain enzyme, advancing treatment for Alzheimer's disease

An authority of international renown on neurobiology and protein chemistry, Prof. Israel Silman was known for illuminating the role of acetylcholinesterase (AChE), a key brain enzyme critical to neural communication. He passed away in February 2025 at the age of 89.

To his many friends and colleagues, who affectionately called him "Sili," Prof. Silman epitomized an "old school" approach to science—being deeply thoughtful, rigorously methodical, and quietly driven by a passion for discovery.

Born in Shipley, England, he immigrated to Israel with his family at age 14. He received his MSc in biochemistry and organic chemistry from the Hebrew University of Jerusalem in 1959. He received his PhD in biophysics under the supervision of Prof. Ephraim Katzir, the fourth President of Israel, at the Weizmann Institute of Science in 1964. After completing his postdoctoral studies at the University of Wisconsin, Madison and the College of Physicians and Surgeons of Columbia University in New York, Prof. Silman joined the Weizmann Institute's newly founded Department of Neurobiology in 1975 and served as its Head from 1988 to 1991.

He was the incumbent of the Bernstein-Mason Professorial Chair of Neurochemistry from 1985 until his retirement in 2000 and subsequent promotion to *emeritus* status.

Prof. Silman's research primarily concerned the synaptic enzyme AChE, including its three-dimensional structure and function, as well as its toxicology and pharmacology. AChE has long been of translational interest, as it is the target of action for insecticides, nerve gases, and the first generation of drugs to counter Alzheimer's disease. With his close Weizmann colleague Prof. Joel Sussman, Prof. Silman revealed the molecular mechanism of an AChE-targeted Alzheimer's drug called rivastigmine (currently sold as Exelon™). Their discovery demonstrated that Alzheimer's could be safely treated with much lower doses of rivastigmine than previously prescribed, thereby minimizing its adverse effects.

For their pioneering work, Profs. Silman and Sussman received the ILANIT-Ephraim Katzir Prize for exceptional achievements in life sciences (2014), the Teva Founders Prize for breakthroughs in molecular medicine (2006), and the Jewish National Fund's Samuel and Paula Elkeles Prize for outstanding scientist in the field of medicine (2005). From 1997-98, Prof. Silman served as the President of the Israel Society for Neuroscience. In 2000, he was named as professor, *honoris causa*, of the Shanghai Institute of Materia Medica, Chinese Academy of Science.

"Some of Sili's most brilliant insights didn't arise in the lab, but rather during our near daily 11 am Turkish coffee breaks with Lev Weiner, Yacov Ashani, and me," recalls Prof. Sussman. "These informal gatherings, rich in spirited conversation and laughter, often proved more productive than hours at the bench. They were an essential part of our scientific process. It took me a while to truly appreciate the importance of stopping, stepping back, and simply thinking. That lesson was a gift from Sili. His legacy endures not only in his scientific contributions, but also in the thoughtful, generous way he approached both work and life."

A connoisseur of jazz and fine dining, and beloved by his students, Prof. Silman was married to Aliza, with whom he had a son, Jonathan Silman.

(Photo courtesy of Prof. Joel Sussman)

Prof. Sara Fuchs

Neuroimmunologist Prof. Sara Fuchs conducted groundbreaking research on muscular diseases, paving the way for effective therapies

Beloved by colleagues, friends, and family for her sharp, witty, warm, and engaging mind, neuroimmunology pioneer Prof. Sara Fuchs, known affectionately as "Saraleh," passed away in April 2025, just shy of her 90th birthday.

Born in 1935 in Hadera, she married her high school sweetheart Yoram Fuchs while completing her MSc in chemistry and physics at the Hebrew University of Jerusalem in 1959. For her doctoral studies, the young couple moved to Rehovot, and Prof. Fuchs became one of the first Weizmann Institute PhD students of world-leading immunologist Prof. Michael Sela. While earning her degree, she also gave birth to two of her three children.

The family then traveled abroad for the first time in 1965, as Prof. Fuchs had secured an extraordinary opportunity to conduct postdoctoral research in the lab of Prof. Christian Anfinsen at the US National Institutes of Health (NIH) in Bethesda, Maryland. Prof. Anfinsen would go on to win the Nobel Prize in Chemistry in 1972.

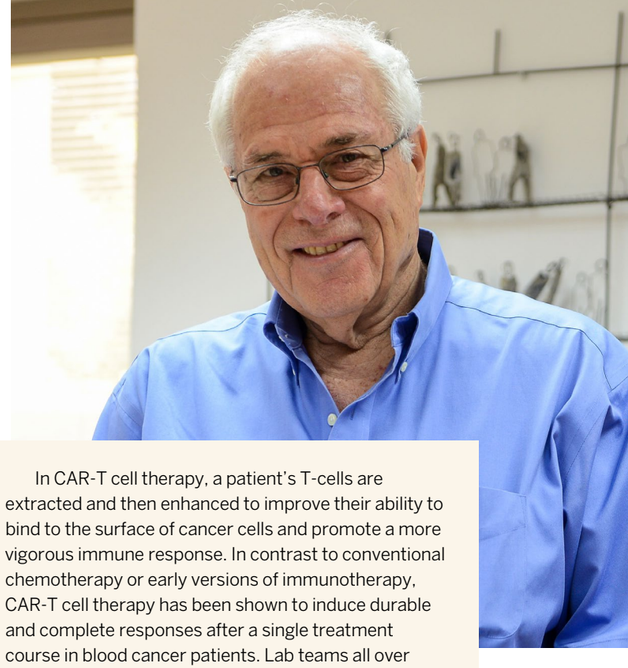
Returning to the Weizmann Institute as a senior scientist in 1969, Prof. Fuchs joined what was then known as the Department of Chemical Immunology. In time, she undertook collaborative research with Prof. Israel Silman, an expert on the structure of the neural enzyme AChE—a decision that proved a watershed for her career. Investigating the enzyme, which acts upon the neurotransmitter acetylcholine (ACh), Prof. Fuchs discovered that the ACh receptor plays a vital role in the autoimmune disease myasthenia gravis, a chronic condition that causes weakness in the voluntary muscles—most commonly those of the eyes, face, and throat. She pivoted her efforts toward deciphering the structure and function of the ACh receptor as well as potential therapies for myasthenia gravis.

Prof. Fuchs was also recognized for her significant contributions to the study of dopamine receptors, particularly in understanding their role in neuropsychiatric conditions, including schizophrenia and Parkinson's disease.

Her research involved successful collaborations with many scientists and physicians, and she spent multiple sabbatical periods at the NIH and other prestigious institutions abroad. Prof. Fuchs held the Sir Ernst B. Chain Professorial Chair in Neuroimmunology until her retirement from the Weizmann Institute in 2000 and was promoted to *emeritus* status in 2003.

Even after her official retirement, Prof. Fuchs continued her research, ultimately becoming part of the new Department of Immunology and Regenerative Biology. Her office wall was decorated with a large poster featuring photos of her many students who were always, she said, a cherished part of her journey. Many of them continued to collaborate with her long after they had left her lab, a testament to the lasting impact she had on their lives and careers.

Says Prof. Drorit Neumann, a former student of Prof. Fuchs and now Dean of Students at the Sackler Faculty of Medicine at Tel Aviv University, "She inspired us to become not only excellent scientists but also generous collaborators, always encouraging us to see the bright side of situations and to approach challenges with optimism and resilience."



Prof. Zelig Eshhar

Prof. Zelig Eshhar was a pioneer of CAR-T cell therapy, transforming cancer treatment worldwide

The Weizmann Institute and the international community of cancer researchers mourn the loss of Israel Prize laureate Prof. *Emeritus* Zelig Eshhar, who passed away in July 2025 at age 84.

Prof. Eshhar's research on molecular recognition in the immune system paved the way for the clinical science of cellular immunotherapy. He spearheaded the development of CAR-T therapy—a method of genetically modifying immune system T-cells, and improving their ability to target and kill cancer. Today, CAR-T cell products are widely used for the treatment of various blood cancers.

Born in Israel in 1941, Prof. Eshhar grew up in Rehovot and completed his BSc and MSc in biochemistry and microbiology at the Hebrew University of Jerusalem. He earned his PhD at the Weizmann Institute in 1973 and, after a postdoctoral fellowship at Harvard Medical School, rejoined the Institute in 1976 as a principal investigator in the Department of Immunology.

In 1990, after many years of cutting-edge work at Weizmann, he took a sabbatical and joined Dr. Steven Rosenberg at the US National Institutes of Health. There, they designed and developed the first chimeric antigen receptors (CARs) which, when engineered into T-cells, can target human melanoma.

"This collaboration was pivotal—by combining Eshhar's innovative CAR designs with Rosenberg's expertise in cancer immunotherapy, they laid the groundwork for what would become CAR-T cell therapy," explains Prof. Yardena Samuels, Director of the Weizmann Institute's Moross Integrated Cancer Center.

In CAR-T cell therapy, a patient's T-cells are extracted and then enhanced to improve their ability to bind to the surface of cancer cells and promote a more vigorous immune response. In contrast to conventional chemotherapy or early versions of immunotherapy, CAR-T cell therapy has been shown to induce durable and complete responses after a single treatment course in blood cancer patients. Lab teams all over the world are currently investigating how the CAR-T method might be used to successfully treat solid tumors as well.

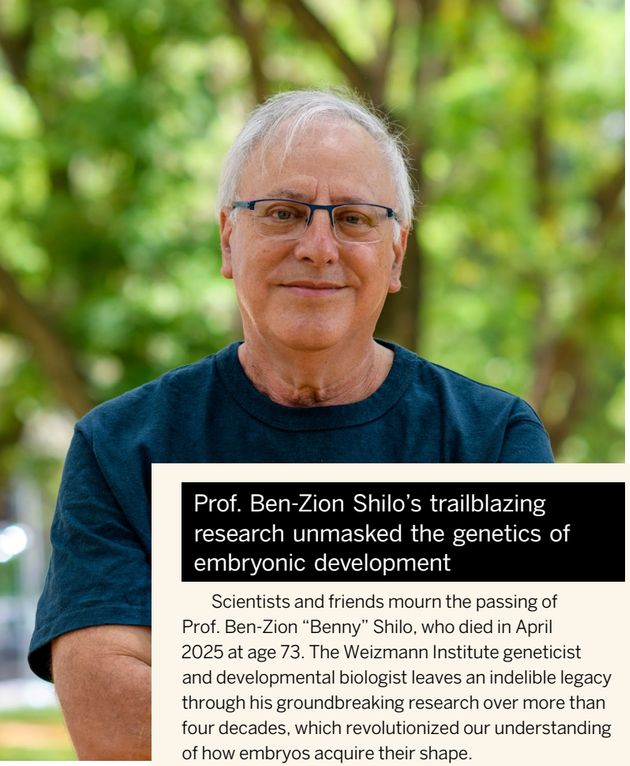
Starting in 2012, Prof. Eshhar served as Director of Immunology Research at Tel Aviv Sourasky Medical Center. He also founded and served as chairman of the Israeli Society of Gene Therapy and was a Board member of the European Society of Gene Therapy.

Apart from his research into tumor immunotherapy, Prof. Eshhar developed dozens of unique antibodies during his career and was involved in manufacturing advanced biosensors capable of detecting trace amounts of explosive materials and illegal drugs.

His groundbreaking discoveries have been recognized worldwide. In 2015, he was awarded the Israel Prize in Life Sciences for his seminal work, which the prize committee hailed as "ushering in a new era of research in molecular biology and cancer and immune system cells."

In 2021, he and his colleagues were awarded the Dan David Prize in Molecular Medicine for "shaping the future" with their development of CAR-T cell therapy. More recently, his tremendous contributions earned him both the Canada Gairdner International Award and the Warren Alpert Foundation Prize.

"Prof. Zelig Eshhar was a true pioneer who laid the foundations of the immunotherapy revolution by inventing CAR-T cell therapy—a breakthrough that reprograms the immune system to fight cancer and has saved countless lives," Prof. Samuels says.



Prof. Ben-Zion Shilo

Prof. Ben-Zion Shilo's trailblazing research unmasked the genetics of embryonic development

Scientists and friends mourn the passing of Prof. Ben-Zion "Benny" Shilo, who died in April 2025 at age 73. The Weizmann Institute geneticist and developmental biologist leaves an indelible legacy through his groundbreaking research over more than four decades, which revolutionized our understanding of how embryos acquire their shape.

Prof. Shilo's laboratory made fundamental contributions to identifying conserved signaling pathways in organisms as disparate as fruit flies, mice, and humans. He and his co-workers were among the key groups that revealed the mechanistic basis for pattern formation in multicellular organisms.

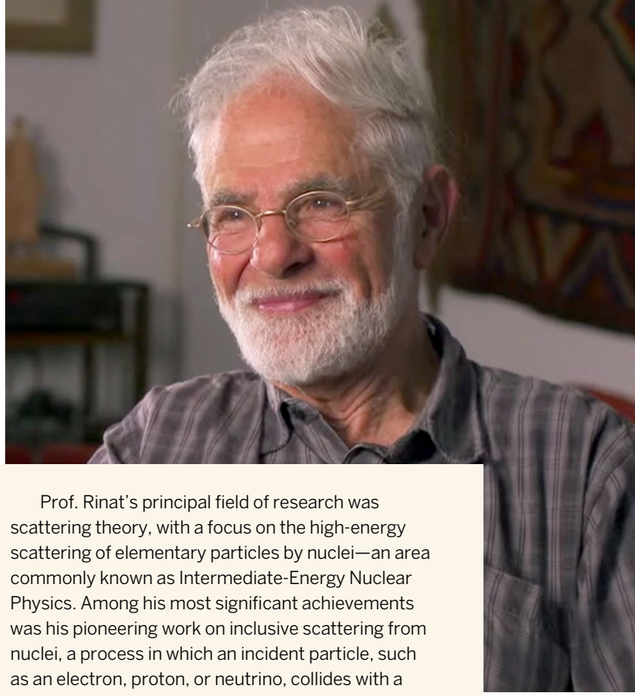
Born in Jerusalem, Prof. Shilo began his training at the Hebrew University of Jerusalem, where his PhD thesis focused on the genetics of baker's yeast—the same type of yeast used for making beer, wine, and bread. The organization of yeast is similar to our own cells, making them an ideal model system for research aimed at examining human biological processes. Later, during a postdoc at the Massachusetts Institute of Technology with Prof. Robert Weinberg—whose research helped identify the very first genes known to cause cancer in humans—Prof. Shilo demonstrated that critical gene families found in mammals are also found in the genome of the common fruit fly *Drosophila*. This realization established *Drosophila* as a key model for investigating mechanisms that drive normal human development as well as disease onset.

After opening his lab at the Weizmann Institute in 1981, in what was then the Department of Virology, Prof. Shilo worked with his colleague Prof. Naama Barkai, devising computational methods to understand how cell-to-cell interactions—driven by evolutionarily conserved signaling networks—give rise to patterns typical of specific organs and tissue types. These approaches, and others produced in the Shilo lab, led to a sea change in disease-focused life science research related to birth defects and developmental syndromes.

Prof. Shilo transcended academic boundaries through innovative science communication. An avid and creative photographer, a 2012 fellowship at Harvard culminated in the publication of his book, *Life's Blueprint: The Science and Art of Embryo Creation* (Yale University Press), which paired scientific images with artistic photography to reveal the logic and beauty of embryonic growth. He also published an extensive gallery online of his personal photography from around the world, including from his time at the National Centre for Biological Sciences (NCBS) in Bangalore, India, where a developmental biology course was named in his honor.

Prof. Shilo took on leadership roles within the Weizmann Institute administration, serving as Chair of the Board of Studies in Life Sciences, Head of the Department of Molecular Genetics, Chair of the Council of Professors, and closely supervising graduate school programs. He was the incumbent of the Hilda and Cecil Lewis Professorial Chair of Molecular Genetics.

"There are many throughout the world who, like myself, are most saddened by the loss of Benny," Prof. Weinberg said from his lab at MIT. "During his many years with us, he developed a large constituency of fans who greatly admired his scientific contributions. For my part, our friendship stretched over four decades. How much I already miss this pillar of strength in my own world."



Prof. Avraham S. Rinat

Dutch-Israeli theoretical physicist Prof. Avraham Rinat developed practical and powerful tools to probe the internal structure of matter

Prof. *Emeritus* Avraham S. Rinat from the Department of Particle Physics and Astrophysics passed away in September 2025 at age 97.

Prof. Rinat (Reiner) was born in Amsterdam on June 3, 1929. He was a childhood friend of Anne Frank's, until the start of World War II. In 1942, two years after the Nazis occupied the Netherlands, the local underground helped his family go into hiding on a farm several hours away. While in hiding, Avraham and his cousin Saul studied mathematics using smuggled textbooks. In 1945, his father, Joseph, was discovered by Nazi troops, captured, tortured, and shot to death.

Avraham and the remaining family members were forced out of the basement where they had been hiding and taken to the Westerbork transit camp in the country's northeast, where they remained until the camp was liberated by Canadian forces in 1945.

After the war, Avraham finished high school and joined a local Zionist youth movement affiliated with the Habonim organization.

In the 1950s, he enrolled in the University of Amsterdam as a physics student. His PhD, which he earned in 1958, delved into interactions between nuclei and atomic electrons. At about the same time, Avraham met Weizmann Institute physicists Igal Talmi and Amos de-Shalit at a conference. The two were impressed by his fluent Hebrew and encouraged him to fulfil his dream of moving to Israel with his wife, Naomi, and their children.

Upon arriving in Israel, Avraham Hebraized his last name from Reiner to Rinat. In 1963, he joined the Weizmann Institute as a senior scientist in what was then the Department of Nuclear Physics.

Prof. Rinat's principal field of research was scattering theory, with a focus on the high-energy scattering of elementary particles by nuclei—an area commonly known as Intermediate-Energy Nuclear Physics. Among his most significant achievements was his pioneering work on inclusive scattering from nuclei, a process in which an incident particle, such as an electron, proton, or neutrino, collides with a nuclear target and transfers substantial energy and momentum. In such experiments, only the scattered projectile is detected, while the multitude of possible final states of the target remain unobserved.

This type of scattering provides a powerful tool for probing the internal structure of nuclei, revealing information that is otherwise extremely difficult to obtain. His work not only deepened our understanding of nuclear structure but also provided essential tools for exploring the interface between nuclear and particle physics.

In 1997, he became professor *emeritus* at the Weizmann Institute and in 1981 was elected a corresponding member of the Royal Netherlands Academy of Arts and Sciences.

Over the course of his career, Prof. Rinat published over 100 academic papers and spent time as a research fellow at the European Organization for Nuclear Research (CERN), the Los Alamos National Laboratory in New Mexico, Université Paris-Saclay, and TRIUMF—Canada's particle accelerator center.

Departmental colleague Prof. *Emeritus* Shmuel Gurvitz, who co-authored several papers with Prof. Rinat, enjoyed their collaborations.

"Avraham was a multifaceted person, a man of culture, unassuming and considerate, who always wanted to help," Prof. Gurvitz recalls.

Prof. Rinat is survived by his wife, Naomi, their five children, and many grandchildren and great-grandchildren.

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