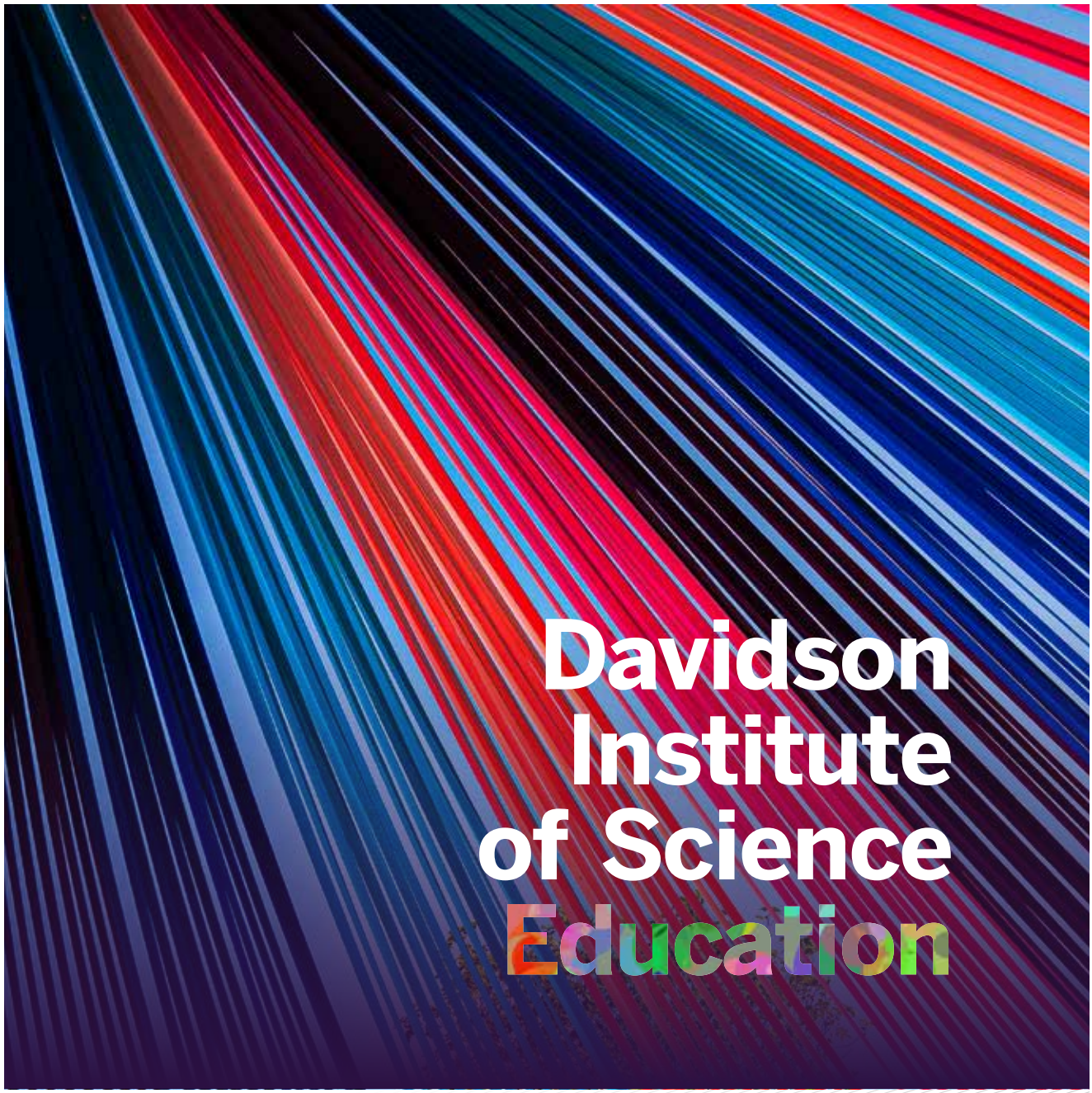


מכון ויצמן למדע
WEIZMANN INSTITUTE OF SCIENCE

Davidson Institute
The Educational Arm of the Weizmann Institute

“The Davidson Institute offers science to all people of all levels, of all age groups in all possible ways.”

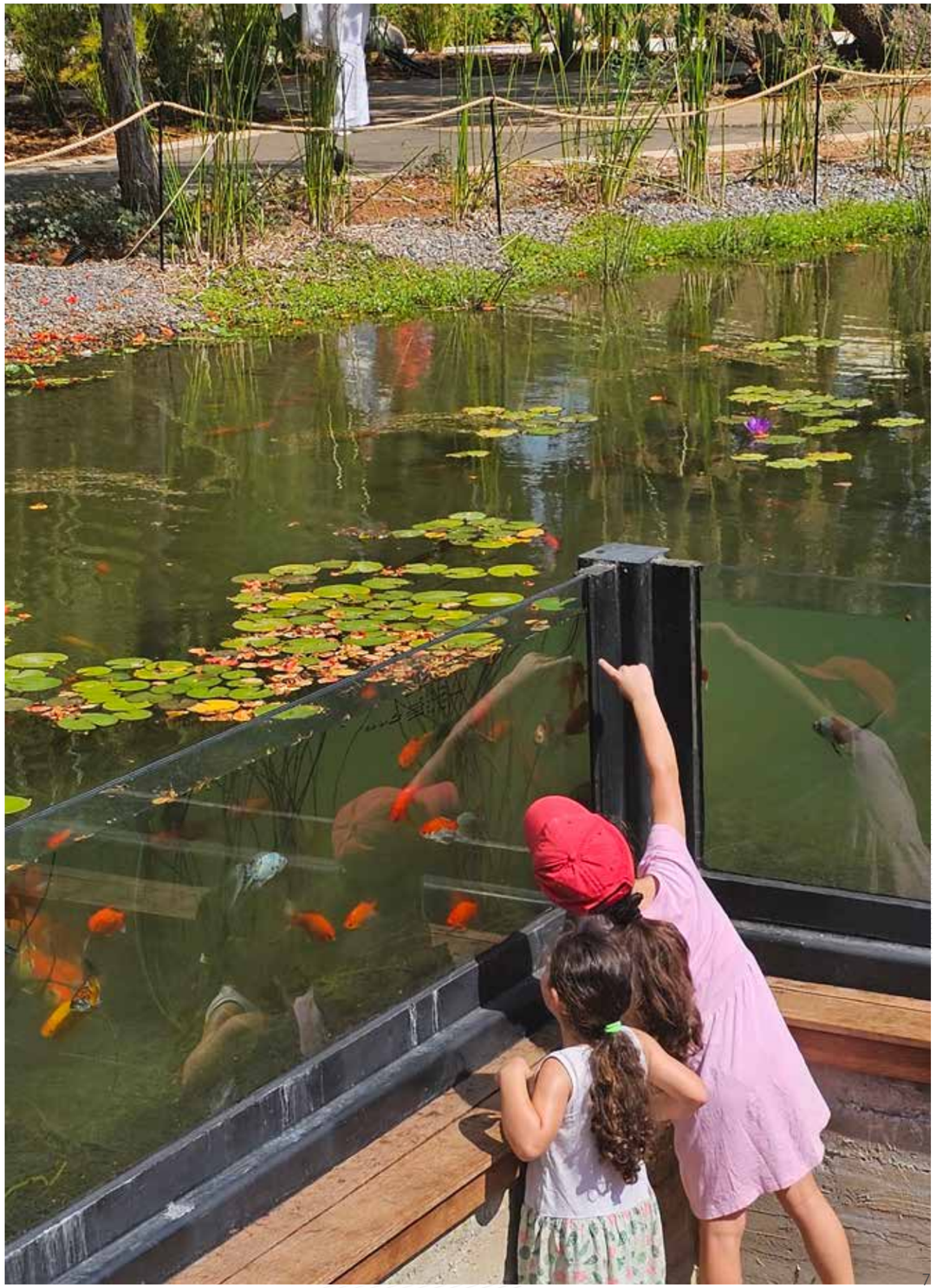
Prof. Haim Harari
Founding Chairman,
Davidson Institute of Science Education
and former President,
Weizmann Institute of Science

Science is at the heart of our understanding of the world and our place in it. Our natural curiosity drives us to explore, question, and make sense of everything around us, unlocking the power of scientific inquiry as a core element of human behavior. Education is the key to nurturing this curiosity, building upon our desire to learn. Great science education sparks motivation and creativity, and empowers students to become problem solvers, turning abstract ideas into real-world solutions. It equips them with the essential skills to explore new possibilities, meet challenges, and draw insightful conclusions from the world they observe.

TRAINING THE NEXT GENERATION OF **LIFELONG LEARNERS**

Founded in 1999 through a visionary gift from philanthropist William (Bill) Davidson and the William Davidson Foundation, the **Davidson Institute of Science Education** is a nonprofit organization dedicated to connecting people of all ages and from all walks of life to the frontiers of science.

As the education and literacy arm of the Weizmann Institute of Science, the Davidson Institute offers a diverse range of programs across all major areas of science, technology, engineering, and mathematics (STEM) for students, educators, and the public, reaching Israel's geographically remote and economically disadvantaged communities, and encompassing the ultra-Orthodox, Ethiopian, and Arab sectors of society.



WHY SCIENCE EDUCATION?

A path to progress

A society that values science education is one that will thrive—becoming more successful, advanced, and economically prosperous. We believe that understanding the science behind everyday human experiences, from consumerism to education to health, can enhance everyone's quality of life.

Science is for everyone

Building a more inclusive, equitable, and diverse community is crucial. Everyone, regardless of their identity or socioeconomic status, should have access to scientific knowledge and its benefits; ensuring that the power of science can transform lives everywhere.

Fostering a spirit of discovery

Science education sparks curiosity, encouraging students to explore the world around them. By promoting inquiry-based learning, we empower students to follow their interests, investigate phenomena, and seek answers to their questions.

Acquiring life skills

Science education equips us with essential life skills: critical thinking to overcome challenges, effective and passionate communication, a collaborative spirit that drives teamwork, and problem-solving abilities that transform obstacles into opportunities.

TOMORROW'S
STEM LEADERS

The Davidson Institute excels at enhancing the scientific knowledge, skills, and motivation of high-achieving students across all STEM-related fields, setting them on the path to becoming future leaders. To ensure that exceptional students, including those from underserved communities and remote areas, can access these competitive programs, we offer flexible hybrid options, combining online and in-person classes, making top-tier education more accessible than ever.

Alpha program for gifted students

The three-year Alpha program offers exceptional 9th to 11th-graders exclusive access to state-of-the-art labs on the Weizmann campus and the opportunity to learn from world-class researchers. Participants engage in hands-on investigations, attend scientific lectures, and explore topics of personal interest throughout each school year. The program also includes a two-week summer camp at the Davidson campus. Completing the program translates into five credit points toward high school matriculation.

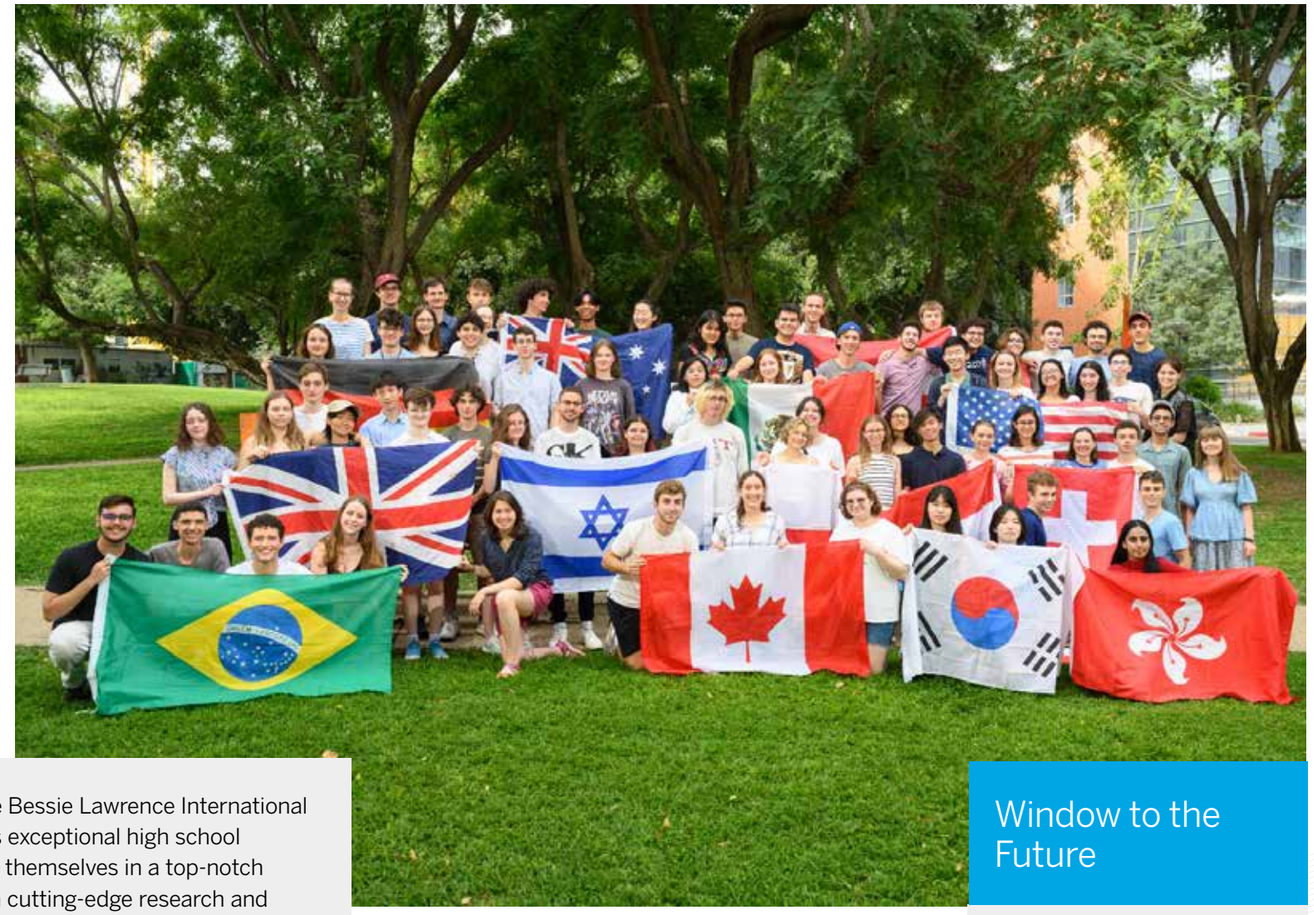
Multi-year matriculation courses

This exclusive selection of hybrid matriculation courses focuses on advanced scientific topics not typically offered in Israeli schools. The highly sought-after multi-year courses combine online and in-person learning, allowing participants to personally design experiments, visit Weizmann laboratories, meet leading scientists, and participate in unique experiences tailored to further advance their chosen field of study. Topics include neuroscience, computer programming, astrophysics, Earth science, and engineering.

BREAKING **GLOBAL** GROUND

Bessie Lawrence International Summer Science Institute (ISSI)

Founded in 1969, the competitive Bessie Lawrence International Summer Science Institute invites exceptional high school graduates worldwide to immerse themselves in a top-notch scientific experience aligned with cutting-edge research and culminating in a research paper and seminar presentation. Participants also attend lectures on science and technology, enjoy cultural and social activities and tours across Israel, develop leadership skills, and participate in art projects and ethical discussions inspired by science.



Window to the Future

Window to the Future is an online science club that brings together talented high school students from all over the world to engage in conversation with Weizmann scientists. Formal and informal meetings throughout the year include virtual lab tours, discussions about ongoing research, and interactive Q&A sessions.

Safe-Cracking International Physics Tournament

Teams of high schoolers from around the world, mentored by Weizmann PhD candidates, spend six months planning, designing, and building a locking mechanism that can only be cracked by employing the principles of physics. The challenge culminates in a thrilling three-day tournament at the Davidson Institute, where international delegations compete and are judged by Weizmann and Davidson physics experts.

SOCIAL **MOBILITY** & SCIENCE **LITERACY**

Science education is a transformative tool that empowers individuals to overcome socioeconomic barriers, fostering a more equitable society. These programs equip participants with the knowledge, skills, and opportunities to thrive, driving innovation and entrepreneurship and addressing societal challenges.

By prioritizing inclusivity, diversity, and equity, the Davidson Institute aims to create a community where scientific knowledge and its benefits are accessible to all, regardless of their background, identity, or socioeconomic status.

Active Science

The Active Science program provides at-risk elementary, junior high, and high school students with the skills necessary to ask questions, acquire knowledge, and understand how science and technology shape nearly all aspects of our environment. Offered in Hebrew and Arabic, the program reaches many communities across Israel, including Ethiopian, ultra-Orthodox, and Arab students, through theoretical and practical activities connecting science to everyday life.

For elementary students, Active Science brings engaging classroom-based lessons to schools throughout the country, especially in remote areas lacking resources, emphasizing the importance of early science literacy. For junior high students at risk of dropping out of school, Active Science offers an opportunity to meet the Ministry of Education's science graduation requirements, giving them a path forward.

STEM learning in Israel's periphery

In today's rapidly changing world, early STEM education is essential for developing problem-solving skills and adapting when challenges emerge. Partnering with municipal officials and educational professionals across Israel's social and geographic periphery, the Davidson Institute promotes STEM education. By engaging local communities—especially parents—in students' work, the program fosters a deeper appreciation for science education, highlighting its relevance in everyday life and the future opportunities it opens up for students.

Sparks of Science

The Sparks of Science Program in Memory of Moshe Pergament empowers outstanding Israeli youth of Ethiopian descent by offering engaging educational experiences that complement their school curriculum and inspire them to explore their potential in science and technology.

Through dynamic activities, Sparks of Science introduces these high school students to advanced concepts in biology, chemistry, and physics in an environment that boosts students' self-confidence and motivates them to pursue careers in the sciences, unlocking new possibilities for their lives going forward.

Plant Microbiome Project

The Plant Microbiome Project is a groundbreaking collaboration between the lab of Pro. Ziv Reich in Weizmann's Department of Biomolecular Sciences and Davidson education experts, bringing together students and teachers from across the country to comprehensively map out Israel's plant microbiota—the bacteria and fungi on plants' flowers, soil, roots, and leaves.

Students gain hands-on experience in data collection, learning about the importance of microorganisms and plant science while contributing samples to help scientists identify unknown microorganisms. This, in turn, drives scientific discovery in climate change, biomedicine, and sustainable agriculture. Recognized by the Ministry of Education, the project also offers high school students credits toward graduation.

Compass: dream jobs in science

To inspire students to pursue science, technology, engineering, and math, they must first understand these subjects and the role they can play in their personal and professional lives. The Compass program offers 9th-graders from remote and underserved schools a special two-day experience at the Davidson Institute, where they are immersed in cutting-edge research.

This program showcases the vast career opportunities available within the STEM fields, bringing students to the Rehovot campus to understand firsthand the potential of these areas of work and study.

Recreational mathematics

There is more to mathematical thinking than just calculations—it involves curiosity, creativity, original ideas, and the thrill of discovery. Working with cities in Israel's social and geographic periphery, the Davidson Institute offers a program specially designed to cultivate mathematical thinking among selected students, enhancing confidence in their own abilities and encouraging them to consider future scientific studies. Participants also have the opportunity to build relationships with like-minded peers and meet scientists who serve as role models, fueling their passion for math and its real-world applications.

Thimar: connecting with nature

Named after the Arabic word for "fruit" and the Hebrew acronym for "culture, knowledge, science, and patience," the Thimar program develops scientific activities that promote multicultural dialogue between children from different backgrounds through hands-on experiences.

Learning together in both Arabic and Hebrew, the young participants work to put their prejudices aside and truly connect with each other.

Masada outdoor adventure

This two-day desert adventure takes place at the historic site of the Masada fortress and combines science with outdoor activities linked to its siege.

Participants camp in tents, prepare their own meals, and tackle the challenges of the great outdoors. The experience promotes interdisciplinary problem-solving through team-building exercises, where students design and create a product or a model demonstrating scientific principles. From building catapults to applying physics and chemistry to develop light sources and mechanical devices, this program encourages students to integrate theory with practical application in a truly unforgettable setting.

Year-round fairs and competitions

Throughout the school year, the Davidson Institute offers students exciting opportunities to nurture their passion for science and explore and demonstrate their skills outside of the classroom in specialized competitions and fairs in both Hebrew and Arabic.

The dedicated Davidson staff offers crucial support, fostering an environment where students can fully explore specific scientific interests. These activities encourage students to integrate science and engineering concepts, all while honing leadership skills and engaging in social and cross-cultural communication.

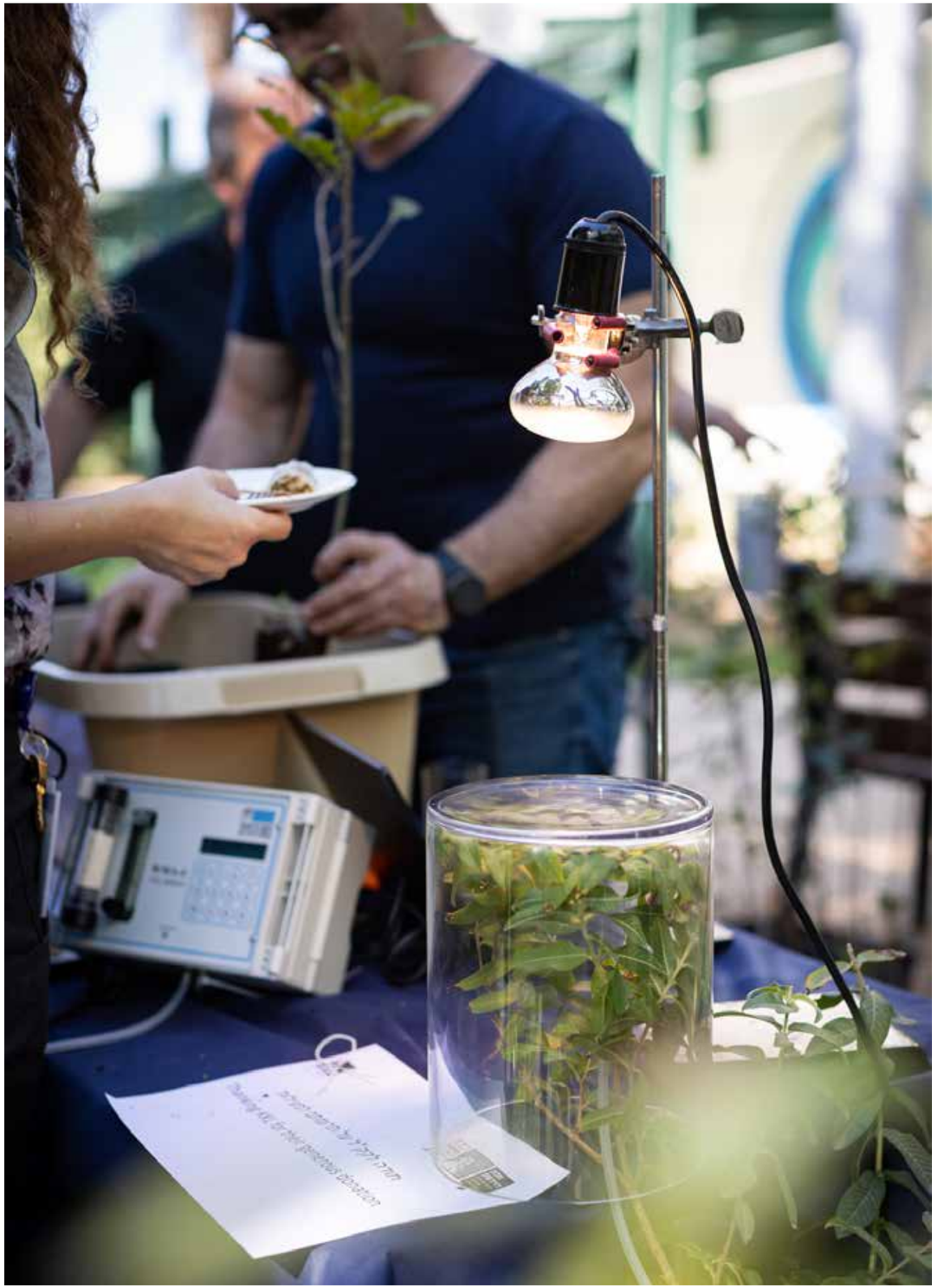
The Yossi Dahan Horizons for Science Gap Year Program

Each year, thousands of Israeli high school graduates delay their military service to enroll in gap-year programs, which operate nationwide and support the next generation of civilian leaders. In 2019, the Davidson Institute partnered with the City of Ofakim—an underserved community in southern Israel—to launch the country's first science-oriented pre-army preparatory program, or "*mechina*."

Since its inception, the Yossi Dahan Horizons for Science Gap Year Program has had a transformative impact on the Ofakim community, providing students access to high-quality science education and resources that were previously out of reach. Building on this success, it is now expanding to more communities across southern Israel.

Volunteer high school graduates from across Israel are paired with students and families in specific communities, creating a powerful exchange. Developing invaluable leadership and teaching skills, these cadets take on a range of impactful roles—teaching, mentoring, organizing community events, and facilitating engaging activities for people of every age, emphasizing the importance of scientific literacy.

The program not only helps build and train Israel's future scientific and civic leaders, but it also instills a sense of responsibility to give back to society. The model is quickly becoming a blueprint for other Israeli communities looking to launch similar gap-year courses, demonstrating the profound impact of merging education, leadership, and community service.



STEM **3.0**

Innovation in the classroom is essential in preparing students for an ever-changing world. The ability to adapt, innovate, and embrace lifelong learning has never been more important. Modern education forms the bedrock of Israel's prosperity while also cultivating its citizens' personal growth. By fostering skills such as critical thinking, creativity, and informed decision-making, science education empowers students to navigate complex everyday challenges, helping them become active members of a dynamic society.

BEAMS: Tools for teachers

The BEAMS program (Building Engagement and Achievement in Mathematics and Science) offers a range of activities to enhance science curricula for classroom teachers. These sessions highlight the value of active learning and teamwork, inspiring educators to inject creativity into their coursework and content. Through engaging and intensive workshops, BEAMS equips elementary and middle school science instructors with novel teaching methods, educational games, pedagogical tools for distance teaching, and more, fostering a hands-on, student-centered approach to science education.

Shavit: Elevating excellence

Junior high school is a formative time, when students begin to explore their interests on a deeper level, making it essential to provide them with enthusiastic and knowledgeable science teachers who can spark a lifelong love for learning and encourage them to pursue careers in STEM fields. The Shavit Track for Excellence in Science—named after the Hebrew word for "comet"—aims to expand the pool of highly qualified teachers and elevate science instruction in Israeli middle schools. Geared toward teachers of exceptional students, the program offers a distinct curriculum featuring engaging hands-on activities, giving instructors innovative tools to inspire the next generation.

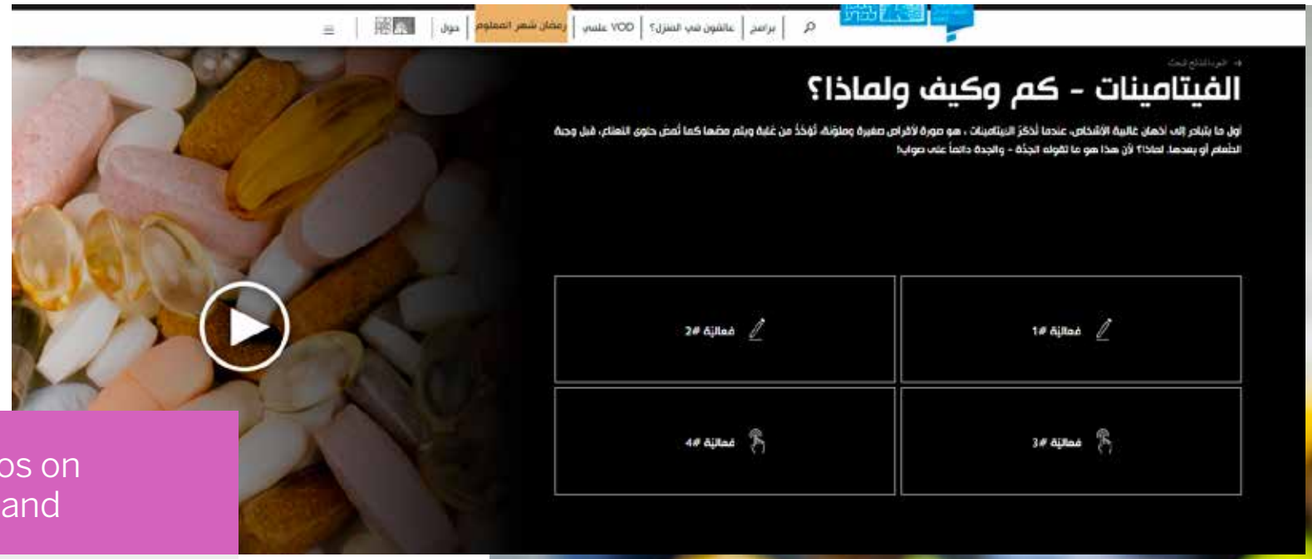
*i*Scientist

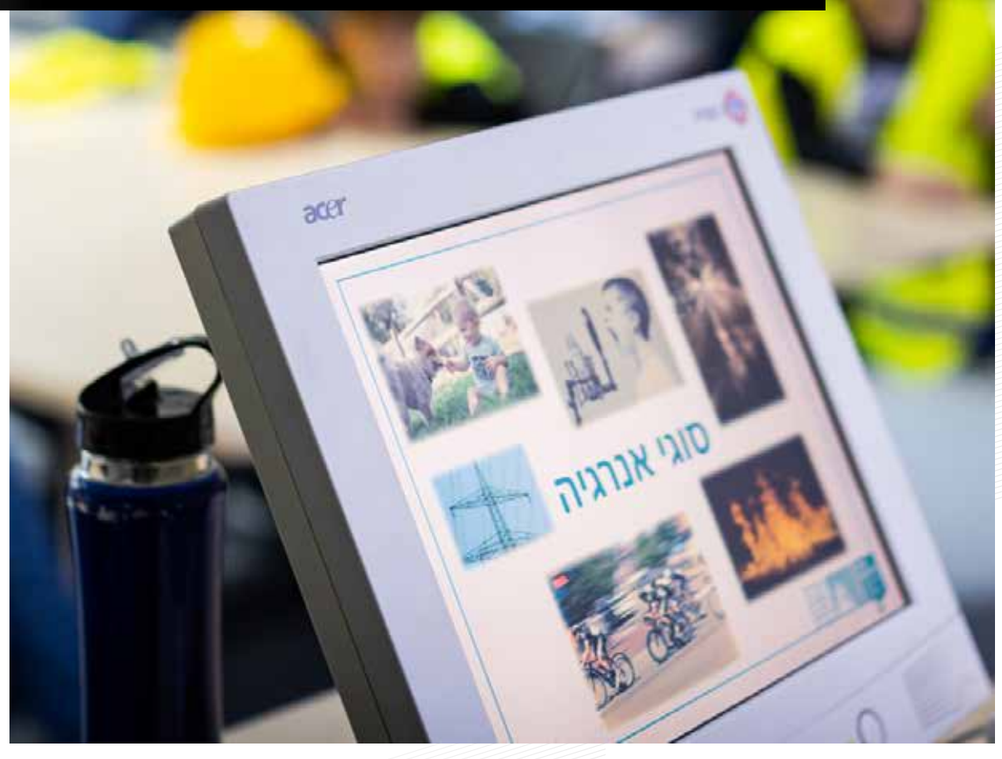
The *i*Scientist program transforms the classroom experience by offering students the chance to engage directly with leading scientists through live video chats. Schoolteachers can easily browse a wide range of scientists and research topics using a mobile app, gaining access to the detailed profiles of experts and their groundbreaking work, as well as to resources like lesson plans, suggested activities, and personalized support.

This highly successful program promotes a methodology that stresses inquiry-based learning. The impact of *i*Scientist is far-reaching, empowering teachers in schools across Israel and inspiring thousands of students to explore science in an interactive and meaningful way.

Videos on Demand

The Davidson Institute's Video on Demand (VOD) platform provides science teachers with a robust digital library of videos, activities, and lesson plans that complement their curriculum. Available in Hebrew, Arabic, and English, this platform is trusted by thousands of educators in Israel and abroad, empowering them to enhance their lessons with high-quality content that activates student interest and fosters a deeper understanding of science.





COMMUNITY **OUTREACH** & ENGAGEMENT

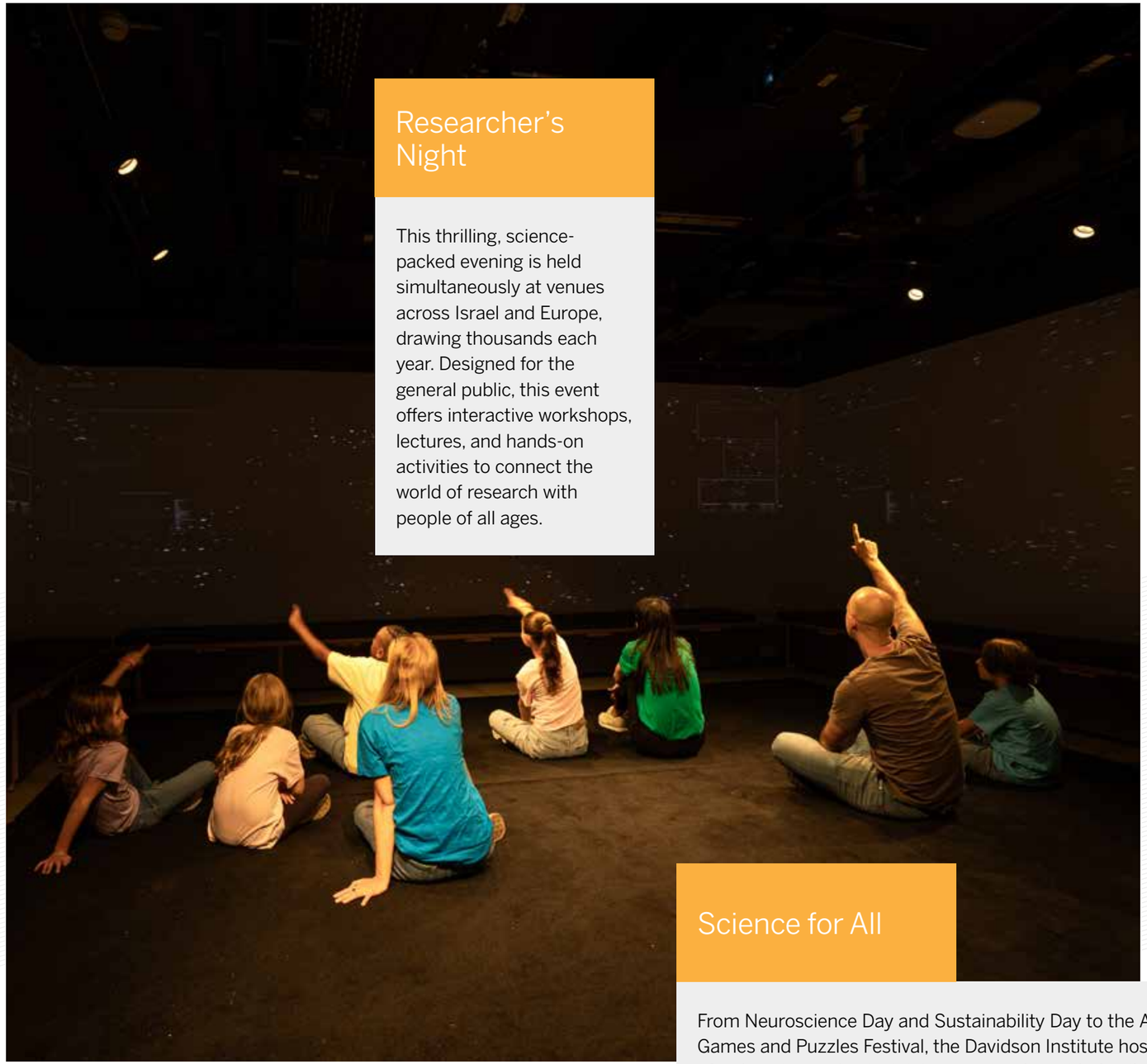
The Davidson Institute is on a mission to ignite curiosity and spark a passion for science, offering a wide array of outreach programs—workshops, lectures, and large-scale events—designed to attract and inspire people of all ages.

Davidson community engagement programs seek to actively involve participants in the exciting world of science, equipping them with critical thinking skills and fostering connections that bridge the gap between academia and Israeli society.

To bring science closer to everyday life, the Davidson Institute organizes signature events, such as the highly popular "Authors Talk Science," where children interact with scientific topics through their favorite fictional characters; the captivating online video series "Science in Sports," blending Olympic sports with fascinating research; and the wildly entertaining "Daniel Asks" animation series—all programs that make science accessible and fun for everyone.

Davidson online

The Davidson website is the go-to hub for engaging scientific content in everyday language, offering a rich mix of news, stories, videos, lessons, quizzes, games, and workshops.



Researcher's Night

This thrilling, science-packed evening is held simultaneously at venues across Israel and Europe, drawing thousands each year. Designed for the general public, this event offers interactive workshops, lectures, and hands-on activities to connect the world of research with people of all ages.

Science for All

From Neuroscience Day and Sustainability Day to the Annual Games and Puzzles Festival, the Davidson Institute hosts an array of welcoming and entertaining events, alongside family-friendly holiday workshops, which provide numerous opportunities for the public to experience science in a fun-filled way.

CLORE GARDEN OF SCIENCE

Nestled within the stunning Weizmann Institute campus, the newly renovated Clore Garden of Science transforms how the public experiences scientific discovery. This open-air museum, designed to capture the essence of exploration, attracts over 120,000 visitors annually.

With its dynamic, hands-on environment, the Garden invites individuals and groups to interact with science through exhibits that come to life. Visitors can explore scientific phenomena at their own pace, choosing how they wish to approach the ever-evolving activities and displays.

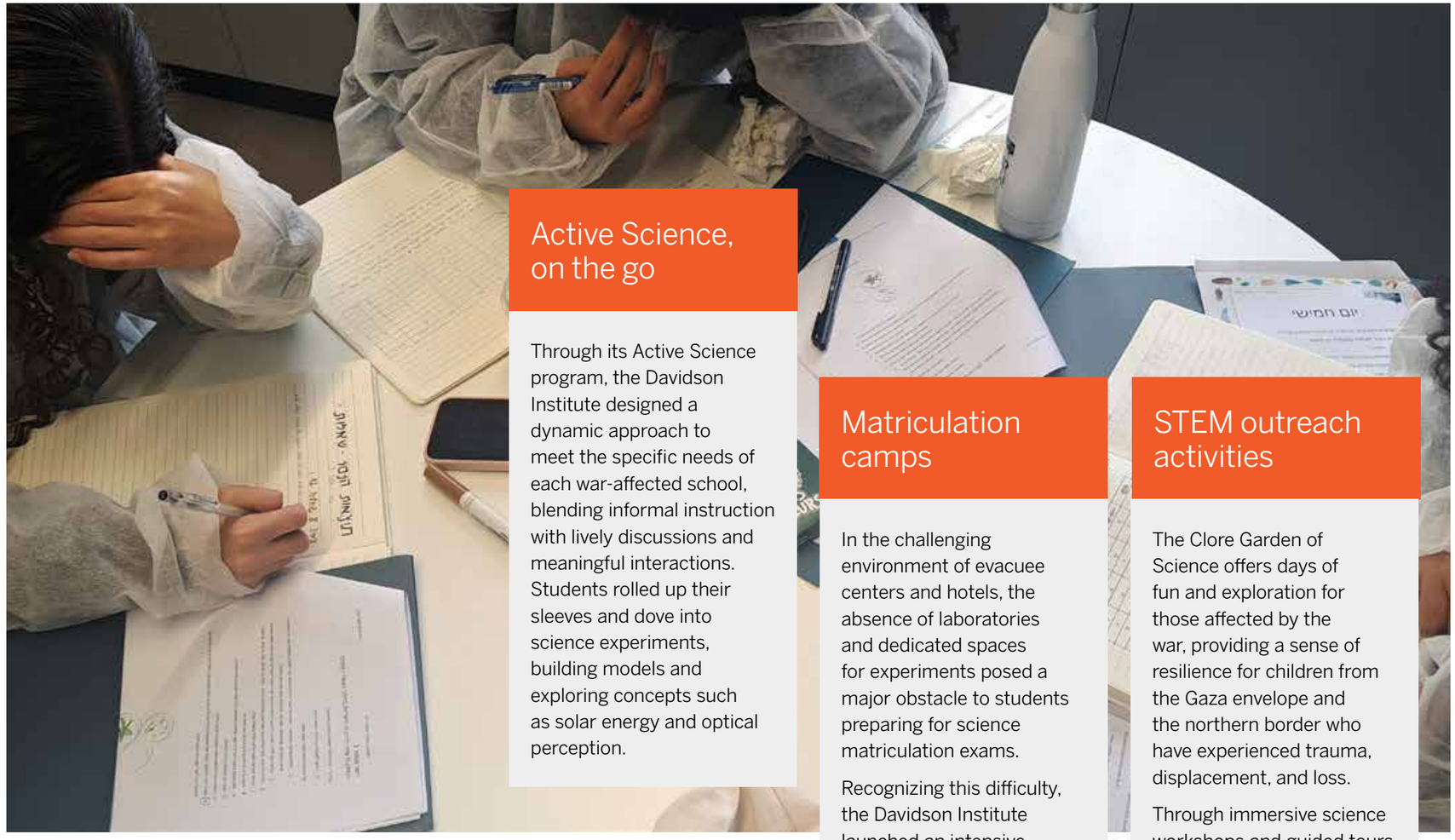
A trip to the Clore Garden of Science imparts an important message: every being has the potential to make a meaningful impact on the world.

A BEACON OF **HOPE** AND **RESILIENCE**

Israel has long endured national emergencies and crises, but the aftermath of October 7, 2023, presented the country with unprecedented challenges. The impact has been profound, testing the resilience of communities nationwide. Amidst this turmoil, the Davidson Institute emerged as a beacon of hope, using the transformative potential of science education to provide solace and purpose to thousands of students grappling with loss and displacement.

From the first week of the war, Davidson teams were on the ground, working with the communities hit the hardest, particularly those from the southern and northern frontlines. With schools disrupted, teachers grieving or called up for reserve duty, and families torn apart and uprooted, many children and teenagers faced precarious circumstances: the complex situation compounded existing educational challenges, especially for youth in underserved regions, increasing their chances of falling behind and creating a critical need for intervention to ensure they remain on track.

In times of uncertainty, restoring a sense of normalcy and routine through education is crucial for helping children regain stability and hope for the future. Using hands-on activities, and bringing science education directly to displaced students throughout the country, the Davidson Institute provided a critical lifeline, offering structure, support, clear goals, and a positive focus.



Active Science, on the go

Through its Active Science program, the Davidson Institute designed a dynamic approach to meet the specific needs of each war-affected school, blending informal instruction with lively discussions and meaningful interactions. Students rolled up their sleeves and dove into science experiments, building models and exploring concepts such as solar energy and optical perception.

Matriculation camps

In the challenging environment of evacuee centers and hotels, the absence of laboratories and dedicated spaces for experiments posed a major obstacle to students preparing for science matriculation exams.

Recognizing this difficulty, the Davidson Institute launched an intensive residential science camp tailored to meet the needs of vulnerable, war-affected students in their final year of high school. Approved by the Israel Ministry of Education, the program offers these students a supportive environment where they can engage in science learning, boosting their confidence and helping them pass their exams.

STEM outreach activities

The Clore Garden of Science offers days of fun and exploration for those affected by the war, providing a sense of resilience for children from the Gaza envelope and the northern border who have experienced trauma, displacement, and loss.

Through immersive science workshops and guided tours of interactive exhibits, young visitors are encouraged to reengage with science, sparking their curiosity and fostering a renewed connection to learning and discovery.

Photographers: Itai Belson and Ohad Herches of the Weizmann Institute Photo Lab; Uri Akerman; Gilad Artzi; Ron Ben Shalom; Eclipse Productions; Gelfand Fab Lab, Schwartz/Reisman Science Education Center; Yael Ilan, Einat Sprinzak, Weizmann Institute Archives
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“I feel **sure** that **science** will bring to this land both peace and a renewal of its **youth** creating here the springs of a new spiritual and material life.”

Dr. Chaim Weizmann, 1946