



MIT
Israel

Annual Report

MIT-Israel Program
2020-2021



MISTI

MIT Global
Experiences

Welcome

As the academic year 2020-21 unfolded, we could never have anticipated the upheaval that impacted our world, the way we interact with each other, and our capacity to travel abroad. Our commitment to providing students with opportunities to engage with Israel has not wavered since the COVID-19 pandemic began. We hope you enjoy reading about our activities over the past academic year.

Our continued work to equip MIT students with the capacity to understand Israel and develop solutions for real-world challenges empowers the next generation of global leaders we critically need. Thank you for your generous support that makes these opportunities possible for our students and faculty, and expands collaboration between MIT and Israel.

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MIT-Israel

Overview

Creating scientific, intellectual, and cultural bridges between MIT and Israel.

Due to the ongoing COVID-19 pandemic, this past academic year proved to be another challenging one, forcing us to rethink the ways in which we engage MIT students with Israel virtually.


This past year, 39 MIT students participated in remote internships with Israeli companies and universities such as Ben Gurion University, Hebrew University, Tel Aviv University, the Technion, Weizmann Institute of Science, and different start-ups and companies around Israel including **Mekorot**, **Sapir Venture Partners**, **Serenno Medical**, and **Optibus**.

Three Israeli national **MIT** students were able to participate in in-person internships in Israel.

In addition to running remote internships, we also awarded 9 grants through our **MIT-Israel Seed Funds** to support MIT and Israeli faculty collaboration and engage additional students in collaborative research via the following Funds: MIT-Israel Zuckerman STEM Fund; MIT-Israel Lockheed Martin Seed Fund; and MIT-Israel Broshy Brain and Cognitive Sciences Fund.

In order to keep the MIT community engaged with Israel virtually, we launched the “MIT-Israel Breaking Boundaries: Israelis in Science, Technology and the Economy” webinar series, which focused on Israeli MIT alumni and others who have played and continue to play, a transformative role in Israeli society. This past year we featured Amnon Shashua, founder and CEO of Mobileye, and Dr. Ada Yonath, the 2009 Nobel Prize winner in chemistry.

In the 2021-2022 academic year, we plan to send students and MIT faculty to Israel to participate in in-person internships, teaching experiences, and research opportunities. In addition, we will integrate some of the online methodology, we have adopted over the course of the pandemic. We thank you for your support, which has been critical in providing these opportunities for our students and faculty and expanding collaboration between MIT and Israel.



“Despite being remote, I still grew drastically, both academically and personally. I had the chance to learn and challenge myself with state of the art machine learning techniques, whilst also discovering how to navigate the work environment and growing as a leader.”

Jane Hu, RobotAI intern



Preparation, Training & Education

In a typical year, the MISTI MIT-Israel program includes a comprehensive pre-departure training for students before they travel to Israel.

The MIT-Israel program has developed a comprehensive training program to prepare students for their internship at an Israeli company or university. Throughout the COVID-19 pandemic, MIT-Israel staff have been brainstorming ways to reshape programming options and transform opportunities into a virtual format. While much has changed over the year, the program's commitment to enabling MIT students and faculty to experience and understand Israel has not.

Israel-related Courses

Students participating in the MIT-Israel internship program are required to enroll in a class on Israel to gain a deep understanding of the country's history, culture, and politics. Students choose from a variety of for-credit courses including:

- Israel: History, Politics, Culture and Identity
- Comparative Politics and International Relations of the Middle East
- The Middle East in the Twentieth Century
- Independent Research Project on Israel

Training from afar

MISTI programs' foundation is intense cross-cultural preparation to equip students for experiences in a country usually unfamiliar to them. In response to the pandemic, the MIT-Israel staff worked to convert group training typically done in the classroom to an online format. The goals of the online training program were to support the students, both personally and professionally, while they worked with internship hosts from another culture. The second aim was for students to gain a deeper understanding of Israeli

Alexa Spinetta, Sapir Venture Partners



“Despite working remotely and having our differences in backgrounds and experiences, I felt as though we were able to mix together the best parts of each culture’s workplaces to develop a superior, quality workplace environment.”



culture while being successful in their internships and developing a stronger connection to their hosts and to Israel.

Virtual training activities included Zoom sessions about Israeli culture and Hebrew language, group reflections on the students’ internship experiences, a virtual tour of Jerusalem, and a lecture by Dr. Rachel Korazim on the impact of the Holocaust on Israeli Society. Students were also sent gift boxes of Israeli food items so they could have a taste of Israel despite not being there in person.

Student Assignments

Throughout the duration of their internships, students completed reflective assignments to help them synthesize what they were learning about themselves, the region, and their work. Assignments included connecting via Zoom with MIT alumni living in Israel, meeting with leaders in their field, and processing their cultural experiences.



Student Interns

*In-person Internship

Jose Aceves Salvador '21

Biology/Chemistry

HOST The Hebrew University of Jerusalem • Professor Jonathan Friedman

PROJECT Utilized forward modeling to study the dynamics of evolution in cooperator-cheater bacterial relationships and quantifying the impact of different factors on the probability of evolutionary suicide.

"Working with Professor Friedman allowed me to develop my computational and research skills to prepare me for graduate school. The one-on-one meetings provided structure to take autonomy over this project and steer it towards questions I find interesting."



Vaishnavi Addala '24

Electrical Engineering and Computer Science

HOST Ben-Gurion University of the Negev • Professor Rami Puzis

PROJECT Developed a library that facilitates modeling and simulation of epidemiological and social models and their interactions. This library is built on PyTorch, which allows for faster simulation times by using a GPU. Internship responsibilities included programming in Python, running tests to ensure efficacy, and documenting results.

"My supervisors helped me learn many techniques on how to approach and work on a large project. One of my biggest takeaways from this experience is having a better understanding of how to build and test a complex and modular system."



Andrea Arias '22

Mathematics and Computer Science

HOST Tech2Peace

PROJECT Building a python curriculum and a new website for non-profit

"This experience has been beneficial to get more practice with technical work in social impact spaces, meeting others who do technical work for social impact, and learning about how non-profits and social impact is different in another country."



Elizabeth Bitman '24

Finance and Mathematics

HOST Mon Terra

PROJECT Conducted market research for Mon Terra, a startup focused on sustainable design. Researched how the startup can break into the American market and



which customers it should target. Determined the designer stores that can sell the product and where recycled textiles and other materials can be purchased. Also created a list of factories that can conform to Mon Terra's ecological design.

"I loved learning about market research and appreciated having the opportunity to conduct relevant tasks related to helping Mon Terra grow into new markets and expand its business."

Jeremiah Budiman '23

Computer Science

HOST Tel Aviv University • Professor Yossi Yovel

PROJECT Data wrangling and visualization for classification of bat sleeping behavior

"I learned to better manage my time: learned to plan ahead of time what I wanted to get done each day and prioritize things that mattered."



Helen Chen '24

Microbiology

HOST Ben-Gurion University of the Negev • Itzik Mizrahi Lab

PROJECT Analyzed proteomic and metabolomic data on Excel and PowerPoint to examine the evolutionary, ecological, and structural basis of microbial fiber degradation in nature. Assisted with completion of both short and long-term projects aiming to predict the composition of the gut microbiome and assess ecological and evolutionary factors that affect these communities.

"Working with a host abroad allowed me to learn more about the global impact of microbiology and its implications. Science is truly universal, and this summer's experience showed me how even around the globe, everyone is encountering similar problems. Additionally, this experience abroad further solidified my passion for the life sciences, as I love connecting and interacting with people of all different backgrounds, and research gives me that opportunity."



Jacqueline Chen '21

Architecture

HOST URI Padan Architects

PROJECT Put together a preliminary research report on proposing a garden installation for the renovation of the Great Synagogue of Tel Aviv. Modeled in Sketchup a residential building and renovation proposal in Jerusalem.

"The internship helped me improve my communication skills and learn new software that can be useful for future jobs."





HOST

“Hosting an MIT student brings a fresh point of view to the group and is a great experience for local students.”

–Professor, Inbal Talgam-Cohen, Technion, Israel Institute of Technology

Sophia Cheung '22

Mechanical Engineering

HOST Mon Terra

PROJECT Designed a mechanical, low cost solution to optimize plastic cutting process to increase overall product manufacturing efficiency and used design and CAD software to visualize the company's products for marketing.

“My MISTI experience taught me to be aware of how other work cultures function and how to quickly adapt to it. It gave me a chance to see how startups function and what it looks like to do meaningful work in a small but passionate team! I appreciate all the guidance I had throughout the internship.”



Landon Chu '21

Computer Science

HOST Technion - Israel Institute of Technology • Professor Inbal Talgam-Cohen

PROJECT Studied the hardness of computing “good” contracts between principals in a setting with incomplete information about both agent types and actions taken.

“The highlight of my internships was getting to meet and work with Professor Talgam-Cohen and learning so much about the field! I feel I have gained valuable skills and experience in working in academic research, as well as a more complete global and regional understanding through the MISTI program.”



Omar Daleh '24*

Computer Science

HOST Hebrew University • Professor Avi Ebenstein

PROJECT Investigated the historical origin of sex preferences by looking at various ethnicities in Africa and connected their agricultural practices with higher sex ratios.



Ankita Devasia '23

Business Analytics and Chemistry

HOST Optibus

PROJECT Worked alongside the support team to provide data analytics-driven insights on customers in order to offer better services and more effectively address client complaints. Created three dashboards illustrating yearly and monthly trends and critical customer data that were sent out to the company.

“Having a mix of cultures represented on my team kept me on my toes and made my work environment interesting and unique. I'm



certain that if I were to have worked with an American host, I would not experience the global representation I did with my Israeli host company.”

Maor Farid '21* Postdoctoral training
Computer Science

HOST Technion-Israel Institute of Technology • Professor Oleg Gendelman



Isabela Fuentes '24
Chemistry and Biology

HOST Ben-Gurion University of the Negev • the Baraban lab

PROJECT Worked on developing a GUI that would allow researchers to easily interact with code that compared simulation and experimental data to determine experimental temperature.

“Through my internship I was able to gain a basic understanding of MATLAB and how it could be applied in a research setting. Working with students and mentors from another country allowed me to learn a lot about the similarities and differences between work cultures in my country and in Israel.”

Shu Ge '24

Mathematics with Computer Science

HOST Dyad Medical

PROJECT Conducted quality assurance for the company's newly developed platform that does image analysis for medical purposes.

“This internship gave me the opportunity to learn about how an application is designed, the challenges a company has to face, and the constant cycle of development, testing, fixing, before a product can be given to the end-user. I found that entrepreneurship is an interest for me that can allow me to combine my various passions in mathematics, technology, and business and use my knowledge to make some direct changes and impact on my surroundings and the larger community.”



Student Interns

*In-person Internship

Harry Heiberger '24

Electrical Engineering and Computer Science

HOST Tel Aviv University • Professor Tom Schonberg



PROJECT Used the Unity engine to develop an immersive VR maze research tool that could record participant eye gaze data and use it to determine how they most likely learned to navigate it. Compared the data across different age groups and ethnicities in order to see how various groups learned differently.

“Throughout the summer, I had the opportunity to advance my technical skills and gain the confidence and expertise to become the software developer I want to be, all while having the cultural experience of a lifetime. I could not be more thankful for such an opportunity.”

Henry Heiberger '24

Electrical Engineering and Computer Science

HOST Tel Aviv University • Professor Tom Schonberg



PROJECT Developed an immersive VR maze navigation research tool using the Unity engine and HTC Vive Pro eye-tracker with the goal of bringing out distinguishable navigation strategies in participants.

“This experience not only allowed me to improve on many technical skills but also opened the door for me to a country which I had initially known very little about. The result was an incredible summer that will empower me to succeed in future internships and jobs in software development.”

Amanda Hu '23

Biological engineering

HOST Dyad Medical

PROJECT Served as a business analyst for Dyad Medical.

“My MISTI experience taught me about working in a small, startup company with connections to the Israeli community.”

Jane Hu '24

Mathematical Economics

HOST RobotAI

PROJECT Utilized convolutional neural networks to extract features from medical images in attempt to streamline medical diagnoses.

“Despite being remote, I still grew drastically, both academically and personally. I had the chance to learn and challenge myself with state of the art machine learning techniques, whilst also discovering how to navigate the work environment and growing as a leader.”



Lily Janjigian '24

Computer Science

HOST Tel Aviv University • Professor Michal Segal-Rozenhaimer

PROJECT Studied relationships between environmental data and COVID-19 infectivity rates in various Israeli cities using Python.

“It was great being able to work with people from a different country and learn about their culture. My favorite part of my experience was the meetings I had with one of the people I worked with during which we just talked about what we had going on outside of work. I enjoyed getting to know my coworkers and those meetings definitely made the experience much more personal.”



Katherine Kostecki '24

Computer Science, Data Science, Economics

HOST Tel Aviv University • Professor Jason Friedman

PROJECT Analyzed data from healthy adult hand movements in order to model all of the variation of those movements. The codes that analyzed adult hands will eventually be used to analyze the movements of those with motor control impairments.

“This internship provided me with an opportunity to explore a topic that I am invested in while also developing skills in data analysis that will be useful in my future endeavors.”



HOST

“This is the second time that I hosted an MIT student for a summer internship. The first project ended up being published in a top conference, I expect the same for this internship as well.”

**-Professor. Keren Censor-Hillel, Technion—
Israel Institute of Technology**

HOST
“This was one of the most productive and nice experiences I have had with students to date! The students were amazing—nice, accessible, and reliable.”

-Professor, Tom Schonberg,
 Tel Aviv University



Darren Lim '23

Computer Science and Engineering

HOST Medcase

PROJECT Worked under the Medcase division of Edgecase, a relatively new branch that aimed to outsource medical professionals to various specialized tasks. The internship project specifically worked to find these medical professionals to join the team. In charge of beginning the development of a database that would hold millions of medical professionals around the world and their contact information.



Ashley Lou '23

Electrical Engineering and Computer Science

HOST Technion Institute of Technology • Professor Shahar Kvatinsky

PROJECT Researched processing-in-memory synthesis tool for memory resistors within the processing-in-memory unit.

“The highlight of my internship was being able to learn a lot more about the current state of computer architecture. I went into this internship with little knowledge about processing-in-memory, but after reading a lot of papers and getting to experiment with the tool itself, I definitely gained a better understanding of the technology. Some key skills I gained during my internship are being able to read other people’s code and make helpful changes. I also learned how to better comprehend scientific papers and once again, gain a better understanding of electrical systems such as circuit schematics, memristors, etc. Since I am looking into a career that would hopefully involve both electrical engineering and computer science principles, this project was a good opportunity to expose me to both disciplines and get experience working in computer engineering.”



Boaz Marks '21

Aerospace Engineering

HOST RobotAi

PROJECT Improved a software used to label objects in multiple, allowing better and more accurate results.

“I think this experience helped me integrate better into the Israeli workplace. I have now moved to Israel and am continuing to work for Robot AI. I learned that I like working in small companies and having a strong and direct impact on the work that I do. I learned how startups in Israel tend to operate and how to blend into those companies. I learned how to speak up more, whether offering my input on the work or seeking clarification of the different concepts. I think this will help me as I continue to work beyond MIT and help me to develop the skills necessary to succeed in an Israeli workplace.”



Samuel Mitchell '24

Computer Science

HOST Mekorot

PROJECT Trained Machine Learning algorithms to improve SVI prediction ability.

“Not only did I further hone my programming skills and get practice with machine learning, but I also got exposure to Israeli social norms. I learned that Israelis are direct, fast paced, and very open to communication.”



Sara Modiano '24

Computer Science and Cognitive Science

HOST The Hebrew University of Jerusalem • Professor Hermona Soreq

PROJECT Trained Machine Learning algorithms to improve SVI prediction ability.

“During a time when we could not do research or attend classes in-person, I found it a very welcome change of pace to work with a host living outside of the United States. Beyond research, I enjoyed talking with my host about how COVID-19 is affecting Israel and its progress with the vaccine rollout since Israel was one of the first countries to vaccinate a majority of its population. In general, working with a host in Israel, though remote, provided me with a sense of variation in the academic year that I would not be able to experience had I worked with a host in the US.”



Mai Nguyen '23

Computer Science

HOST Serenno Medical

PROJECT Designed a new algorithm for their medical device.

“I learned how to ask important questions and learn from my teammates.”



Student Interns

*In-person Internship

Irura Nyiha '24

Mathematics with Computer Science

HOST Tel Aviv University • Professor Iair Arcavi

PROJECT Identified the main transients in E+A post-starburst and quiescent Balmer-strong galaxies, and scouring various transient brokers to compile data on unclassified transients within 1" of the cores 1" within the aforementioned galaxies.

"I learned that I have a passion for programming, even though I was initially hesitant about my skills. I learned a great deal of programming techniques and applications due to this internship, and I would love to further utilize these in future projects, which would hopefully also be astronomy related."



Evelyn Peters '24

Computer Science, Economics, and Data Science

HOST Ben-Gurion University of the Negev • Professor Yaron Orenstein

PROJECT Ran, refined, and statistically analyzed existing deep learning models which predict erroneous binding activity by CRISPR, a gene-editing protein technology; contributed towards the lab's goal of developing an algorithm to predict CRISPR's errors with complete accuracy for use in the pharmaceutical industry.

"I overcame cultural differences to work smoothly with my team, such as developing an appreciation for directness and openness. It was a valuable lesson that came with working with a lab abroad."

Dana Rosenfarb '22*

Electrical Engineering and Computer Science

HOST Sapir Venture Partners

PROJECT Research the impact of COVID-19 on the Israeli and American startup ecosystem.

"Learning more about the world of entrepreneurship and combining it with current relevant research was absolutely fascinating."



Annie Snyder '23

Computer Science, Economics and Data Science

HOST Knesset

PROJECT Prepared a report on the current state and impact of policies on Platform transparency in relation to business consumers.

"It's really cool to be working within a government and to prepare materials that could have a tangible impact on legislation."



Joshua Sohn '23

Mechanical Engineering and Computer Science

HOST The Ecological Greenhouse in Kibbutz Ein-Shemer

PROJECT Prepared, taught, and recorded several lessons over Zoom, including image analysis, biomimicry in space, using scientific instruments, and finding reliable sources online. Worked with individual students, providing help with specific tasks such as analyzing images of duckweed (*Lemna minor*) and finding papers and articles about shrimp (*Litopenaeus vannamei*).

"If I had worked with a host in the US, I don't think my experience would have been as fulfilling. This educational institute is very different from the high school programs that I am used to, and I truly believe there is no place like the Ecological Greenhouse in the world. All of the students are eager to learn and have questions ready to ask at any moment. Watching them develop their research projects over time was a joy."

Alexis Spinetta '24

Mechanical Engineering and Mathematics

HOST Sapir Venture Partners

PROJECT Created a map of startup opportunities from research and frontier technologies developed at elite institutions in Boston, New York, and Israel, including MIT, Harvard, NYU, Tel Aviv University, etc and evaluated potential limited partners who may invest in Sapir VEnture Partners' funds.

"If I had worked with a host in the US, I would not have been exposed to this close-knit, unique firm and way of working. I likely would not have been working under the Managing Partner/founder himself like I was with Sapir. Additionally, it was fascinating to learn more about Israel's culture through the additional MISTI events and various employees I talked to."



Ben-Gurion University
of the Negev

HOST

"I was highly impressed by the skills and dedication of the MISTI MIT-Israel Summer intern that I had the honor to host."

-Rami Puzis, Ben-Gurion University of the Negev



“I now know that the barrier to working with people is not location, rather it is commitment and passion for the project.”

Remote Intern, Samuel Mitchell, Mekorot

David Vulakh '24

Computer Science

HOST Technion - Israel Institute of Technology • Professor Keren Censor-Hillel



PROJECT Worked on a theoretical computer science research project in the field of distributed algorithms. Searched for deterministic algorithms that match the performance of randomized algorithms for subgraph listing in the CONGEST model of distributed computing.

“Getting involved in this project has helped me deepen my connection with Israel and solidify my interest in pursuing a career in theoretical computer science research.”

Brandon Wang '24

Mathematics

HOST Weizmann Institute of Science • Professor Yitzhak Pilpel

PROJECT Implemented basic simulations for viral evolution, with the primary goal of determining how competing strains of viruses interacted in a population. This was done mainly by writing a bunch of code and included creating a lot of visualizations of aggregate data.”

“It was a very instructive experience and I became more enthusiastic about Israeli culture and innovation.”

Ellen Wang '22

Computer Science and Engineering

HOST RobotAI



PROJECT Developed GUI for automated inspections application that differentiated defective and nondefective industrial parts. Also trained various CNNs to differentiate between these parts using image data.

“Culture and innovation. I am more interested in visiting Israel now!

Emma Wang '23

Computer Science and Engineering

HOST RobotAI



PROJECT Worked on a new autonomous quality inspection system designed to find defects in manufactured products. Attempted to build a neural network that could identify the defective regions of an image, and designed and developed a user interface that clients could use to easily label training data, train the neural net, and view predictions.

“This internship was my first experience in industry, and I learned a lot about machine learning and developing software as part of a team. I found that I particularly enjoyed developing the user inter-

face, which was a surprise to me, and helped make me aware of an aspect of computer science that I might want to further pursue.”

Mingying Yang '22

Chemical Engineering

HOST Nextar Chempharma Solutions

PROJECT Identified pharmaceutical companies that Nextar could partner with and license the lysosome-based drug delivery system to.

“I don't think I can get a similar experience anywhere else. I was given a lot of freedom by my host, which is rare in the American workplace.”

Joyce Yoon '23

Mechanical Engineering

HOST Technion - Israel Institute of Technology • Professor Daniel Zelazo



PROJECT Worked on simulating multi-agent robotic system dynamics.

“It was a great cultural exchange opportunity! As someone who grew up in Asian culture, I found that Israel was on the opposite of many of the values I grew up with.”

Kristine Zheng '24

Computation and Cognition

HOST Tel Aviv University • Professor Jason Friedman



PROJECT Created a MATLAB app to process stroke patient data and create graphics. Analyzed human motor control data using functional PCA with SVM and k-means clustering.

“I really enjoyed learning and exploring Matlab and meeting different members of the lab online.”

Selena Zheng '24

Computer Science

HOST iMedis



PROJECT Developed NLP models comparing clinician notes to deep learning-generated diagnoses of radiology scans

“Working with iMedis, even remotely, taught me lots about both machine learning and Israel. In the same meeting, I could discuss the technical depths of different model architectures and hear first-hand about Israel's political system and on-the-ground sentiment toward current events. This was an incredible window into a rich culture and a great opportunity to apply what I've learned in class to a meaningful project.”

Alumni Spotlight

Anirudh Arun

Course 20 (Biological Engineering) '13



What did you study at MIT? When did you graduate? I graduated from MIT in 2013 with a major in Course 20 (Biological Engineering) and minors in Course 9 (Brain and Cognitive Sciences) and 21M (Music).

What is your current profession? Tell us more about what you do every day? I am currently a 5th year resident at Johns Hopkins Hospital in Baltimore, MD in Interventional and Diagnostic Radiology, part of a six-year training program. My specialty training in Interventional Radiology focuses on minimally invasive procedures, using imaging modalities such as fluoroscopy, CT, and ultrasound to guide diagnostic studies and therapy. For example, we can perform targeted cancer treatment through endovascular delivery of chemotherapy or direct tumor ablation, control bleeding in acute trauma or post-operative settings, and treat fibroids and prostatic hyperplasia endovascularly, in addition to procedures in a multitude of other organ systems and disease processes.

When did you participate in MISTI Israel? What did you do during your MIT-Israel internship experience(s)? Please describe the projects you worked on.

I took part in MISTI Israel twice—first in the summer before my senior year, and once again in the summer after I graduated because I loved my experience so much. During my first trip, I interned with a research group at Tel Aviv University. There, I studied differentiation biases in fibroblast-derived induced pluripotent stem cells, specifically as they related



“To anybody considering a MISTI program—do it! It was honestly one of the best decisions I made while at MIT.”

Anirudh Arun

to neural differentiation. During my second internship, I worked with a group at the Technion in Haifa, where I helped examine the structure of healthcare delivery in Israel, specifically with respect to mental health, which was then being transferred from government administration to the major private HMOs. In this project, I had the opportunity to travel to various clinics in Israel, seeing the diversity in care as well as in society.

What were the highlights of your time in Israel? My time in Israel has been one of my most treasured experiences from college. Israel itself was an extraordinary country to experience since it was very easy and safe to travel across the country. Being around fellow MIT students allowed us to quickly get together for a quick weekend adventure with trips to Cairo, Petra, and all corners of Israel, including the Dead Sea, a blisteringly hot hike up Masada, and the beautiful beaches in Eilat. The organized MISTI trip, where we visited the major sites and museums and met with Israeli political and industry

leaders, is also something I very much enjoyed (as well as going rafting down the Jordan River). I heard incredible music from folk concerts to street bands, and had some of the best Mediterranean food in hole-in-the-walls I stumbled upon in a time before I looked at Yelp! To be honest, the more I reminisce, it becomes harder to pick the most memorable experiences!

How have your internships in Israel impacted your personal and professional development?

Spending that many months at a formative point in my education in a country where I did not speak the language and which was culturally dissimilar from that which I had experienced thus far was instrumental in my personal development. Finding a temporary home in Israel and forming bonds there made me realize that we as people are more similar than how our superficial differences make us appear. I became more open to newer experiences and meeting different people. Professionally, my time in the stem cell lab

provided me skills that I directly applied in research I conducted during medical school examining molecular signaling pathways within and between immune cells, under the context of vascularized allograft transplantation. The fundamental knowledge I gained about healthcare infrastructure and delivery in Israel helped me begin to understand the vast complexities of healthcare here at home, especially as I near the end of my training.

Anything else you would like to share? To anybody considering a MISTI program—do it! It was honestly one of the best decisions I made while at MIT. It is a wonderful opportunity to step outside of your comfort zone and experience a new country, culture, and work environment. I would like to extend my thanks to the MISTI Israel staff during my time, especially David Dolev, who was instrumental in making sure we had the best experiences possible.



Dr. Liron Rozenkrantz (MIT) and Professor Sigal Zilcha-Mano (University of Haifa) collaborating on MIT-Israel Zuckerman STEM Fund project titled "Elucidating the Neural Mechanisms of Expectancy-based Effects in Psychotherapy."



MISTI Global Seed Funds

MISTI's Global Seed Funds (GSF) help MIT faculty create exciting new connections by supporting early-stage collaborations with researchers at peer institutions around the world. There are three funds available to those wishing to build research connections in Israel:

- **MIT-Israel Zuckerman STEM Fund**
- **MIT-Israel Lockheed Martin Seed Fund**
- **MIT-Israel Broshy Brain and Cognitive Sciences Fund**

The pandemic disrupted existing MISTI Global Seed Funds faculty projects, so to support seed fund awardees as they reconfigure their project plans, MISTI offered to repurpose a portion of the GSF funds for student salaries to help with research progress. The goal was to keep the projects moving while also providing additional opportunities for students.

Additionally, this past year we awarded an additional 9 grants to support MIT and Israeli faculty collaboration and engage additional students in collaborative research. We are hopeful that researchers will be able to travel between MIT and Israel and in-person collaboration will be possible in the 2021-2022 academic year.



MIT-Israel Zuckerman STEM Fund

PROJECTS

“Boosting Vision on the Go - Perceptual Learning Through Visuo-Motor Engagement”*

Professor Pawan Sinha (MIT) and Professor Roy Mukamel (Tel Aviv University)

“Digital Glass, Traditional Materials and Architectural Memory”

Assistant Professor Caitlin Mueller (MIT) Dr. Eran Ehrlich (Jerusalem and Bezalel Academy of Arts and Design) and Professor Eran Sharon (Hebrew University of Jerusalem)

“Extreme Black Hole Accretion”

Assistant Professor Erin Kara (MIT) and Dr. Iair Arcavi (Tel Aviv University)

“Fundamentals and Applications of Highly-Polarizable Semiconductors”

Assistant Professor Rafael Jaramillo (MIT) and Dr. Omer Yaffe (Weizmann Institute of Science)

“Launching the Technion Center for Computational Intelligence in Medicine”

Senior Research Scientist Leo Anthony Celi (MIT) and Dr. Joachim Behar (Technion - Israel Institute of Technology)

“Nanoengineered Silk Bioelectronics”

Professor Kripa Varanasi (MIT) Dr. Ulyana Shimanovich (Weizmann Institute of Science)



MIT-Israel Lockheed Martin Seed Fund

PROJECTS

“Thermochemistry and Irradiation Damage of WTaCrTiV Multi-Principal Element Alloys (MPEAs) as Optimized Fusion Plasma Facing Materials”

Associate Professor Michael Short (MIT) Professor Shmuel Hayun (Ben-Gurion University of the Negev)

“Uncovering the Design Parameter Space for 3D Microwoven Materials”

Assistant Professor Carlos Portela (MIT) Dr. Igor Berinskii (Tel Aviv University)



MIT-Israel Broshy Brain and Cognitive Sciences Fund

PROJECTS

“Boosting Vision on the Go - Perceptual Learning Through Visuo-Motor Engagement”*

Professor Pawan Sinha (MIT) Professor Roy Mukamel (Tel Aviv University)

“How to Stay in The Zone - Theoretically Motivated Intervention for Optimizing Attentional States”

Professor Pattie Maes (MIT) Associate Professor Ayelet Landau (Hebrew University of Jerusalem)

* Joint funding between the MIT-Israel Zuckerman STEM Fund and the MIT-Israel Broshy Brain and Cognitive Sciences Fund.



MISTI GTL Israel students in action over January 2020.



Global Teaching Labs (GTL)

Global Teaching Labs (GTL), MISTI's ground breaking and high-impact teaching program, enables MIT students to become teachers for one month during "MIT's Independent Activities Period (IAP) in January. Undergraduate and graduate students draw from their world-class science and technology education at MIT and use these hands-on and innovative teaching methodologies to design self-developed curricula, reaching hundreds of Israeli high-school students across dozens of communities. This program attracts top students who are passionate about sharing MIT's unique approach to science, engineering, and entrepreneurship.

In a typical year, teams of MIT students are stationed throughout the country and work with the Amal Educational Network, ORT Israel Network; Loop; The Ecological Greenhouse at Kibbutz Ein-Shemer; Moona: A Space for Change; ORT Braude College, and the Technion-Israel Institute of Technology. This in-depth into Israel's culture exposes students to the differences of the educational systems while giving them the opportunity to sharpen their own skills by teaching what they've learned at MIT, acting as role models to inspire Israeli high school students, and bringing concrete educational value to the schools and students.

We were unable to run the GTL program over the 2020-2021 academic year but are planning to resume the program in-person over IAP in January 2022.



“The experience was very unique in that it was very immersive— I learned a lot about Israeli traditions and culture from talking to the students and teachers about what their lives were like. The open and welcoming nature of the Israeli people made it very easy for my team and I to fit into the structure of a school, and adapt to unscheduled classes!”

—MIT GTL Participant

“Watching these students discovering all the possibilities of coding and talking about the future of the field and women’s place in the field really inspired me again and helped me rediscover some of the joy I had when I first embarked on this path.”

—MIT GTL Participant

Events

Breaking Boundaries Webinar Series

In addition to restructuring internship and GSF programs, MIT-Israel has provided the MIT community with online forums to learn and engage with Israel. We launched the “MIT-Israel Breaking Boundaries: Israelis in Science, Technology and the Economy” webinar series.

This series focuses on Israeli MIT alumni and others who have played, and continue to play, a transformative role in Israeli society. Speakers’ personal stories highlight how MIT influenced them, their professional challenges, what boundaries they feel they have broken through, what tools they used to do so, and advice for MIT students and alumni.

In December, Ada Yonath, 2009 Nobel Prize winner in chemistry, led a candid discussion about her work and career trajectory. This past February in a webinar moderated by CBMM’s

Director, Tomaso Poggio, Professor Amnon Shashua, founder of Mobileye shared about his work at MIT and successful professional journey. Each webinar drew an audience of over 200 people from all around the world.

We are looking forward to continuing the webinar series and bringing more Israel-focused events to the MIT community in the coming year.





Looking Forward Evaluation & Future Plans

The MIT-Israel Program continues to be an anchor for Israel-related activities on campus and a key bridge between the Institute and Israel by empowering MIT students to move forward in their course of study while gaining a deep understanding of and connection to Israel and enabling MIT faculty to collaborate with their peers in Israel. Our students and faculty are making a real impact in government, industry, academic institutions, and high schools in Israel.

Building on lessons learned from the pandemic and MIT's mission of global impact, MIT-Israel will continue to develop hands-on opportunities in education, research, and innovation with a commitment for concrete impact.

During these unprecedented times, and faced with ongoing travel limitations, the program will continue to promote MIT and Israel engagement through: internships; global teaching labs; global seed funds; promotion of for-credit Israel-anchored classes; events; and raising the profile of MIT in Israel and of Israel at MIT through online activities.

The overarching goals of the MISTI MIT-Israel program include:

- Continuing to support student internships, research, and teaching opportunities in Israel, as well as faculty collaborations
- Infusing in-person experiences with online opportunities for deeper preparation and post-in-country experiences, including: engaging with Israeli alumni; usage of online resources; and post-program mentorship
- Cultivating collaborations across campus between Israel-related groups
- Building on faculty seed funds to: promote student short-term educational seminars in Israel; develop Israel-anchored courses; and provide open events and webinars
- Developing online resources to support Israel activities across the Institute including: cultural resources; safety and security guidance; and links to helpful resources
- Raising expendable and endowment funds to grow and secure existing student and faculty seed funds programs and to support new Israel initiatives across the MIT campus.

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