

THE MAGAZINE OF THE HEBREW UNIVERSITY OF JERUSALEM

# SCOPIUS

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Opportunity

Initiative

Science

Social Work

COVID-19

Swab

Shot

Social Distancing

Support

Faculty

Research

Unemployment

Zoom

Microbiology

Alumni

Epidemic

Compassion

Students

COVID

Pooling

Doctors

Healthcare

Quarantine

Well-being

Antibodies

Prayerful

Frustrated

Anxiety

Exhaustion

Stir crazy

Solidarity

Separated

Psychology

Sanitizer

Vaccine

Plant Pathology

Medicine

Success

Testing

Drug Research

Volunteering

Leadership

Brain Sciences

Hope

Diagnostics

Cautious

Unknown

Panicked

Untested

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Biology

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Isolation

Coronavirus

Work from home

Impact

Strength

Unity

Public Health

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Masks

Education

Confusion

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**The Hebrew University of Jerusalem, Israel's first university, is a multidisciplinary institution of higher learning and research where intellectual pioneering, cutting-edge discovery, and a passion for learning flourish. It is a center of international repute, with ties extending to the worldwide scientific and academic community, where teaching and research drive innovation and provide the broadest of education for its students. Ranked among the world's leading universities, the Hebrew University is an institution where excellence is emphasized; where advanced, postgraduate study and research are encouraged; and where special programs and conferences attract students and academics from around the world. At its core, the Hebrew University's mission is to develop cutting-edge research, to educate future leaders, and to nurture generations of outstanding scientists and scholars in all fields of learning.**

**6** Campuses: three in Jerusalem (Mount Scopus, Edmond J. Safra, and Ein Kerem) and in Rehovot, Beit Dagan and Eilat

**4,242** Projects in progress in University departments and some 100 subject-related and interdisciplinary research centers

**24,611** Students, including **13,242** undergraduates, **6,435** master's students, **2,193** Doctoral candidates, and **2,741** overseas, pre-academic students, postdoctoral fellows, and others

**983** Faculty members

# Impact by Example at the Hebrew University:

Social Impact is a core value of the Hebrew University. Although our University is, first and foremost, an academic institution, what matters most is the impact we make on people, communities, and the environment. We take great pride in seeing how the Hebrew University leads by example - supporting and encouraging the people and projects making a difference in this world and ensuring that our priorities are in tune with this message.

This issue of Scopus Magazine features Hebrew University students, faculty, and alumni who are making an impact on the world around them.

This issue opens with an essay and roundtable discussion with four Hebrew University alumni who are pioneering the field of impact economy in Israel. They shed light on the ways in which financial investments and gain can be synonymous with positive social impact. Hebrew University is proud of the fact that our endowment has been invested in accordance with the principles of ESG (Environmental, Social and Corporate Governance) since the year 2019.

One area in which the Hebrew University has had significant impact this year relates to the Coronavirus. As the pandemic upended our world as we know it, the University was able to step up and show compassion to our students in a variety of ways, while our medical students and researchers established the joint Hadassah-Hebrew University virology lab, significantly contributing to the country's diagnostic efforts. Additionally, researchers across faculties and disciplines are conducting cutting-edge studies on the virus and its social implications. Their insights, policy recommendations, and innovations are impacting the local and global efforts to combat and cope with the Coronavirus.

It is our hope that this issue of Scopus Magazine inspires you, as it has inspired us, to appreciate the ways that the Hebrew University is making a tangible, sustained social impact in the world. As an institution of higher learning, we cannot measure our worth by academics alone; we have an ethical imperative to evaluate and measure how we are making the world a better place for all of humankind.



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President



**Daniel Schlessinger**  
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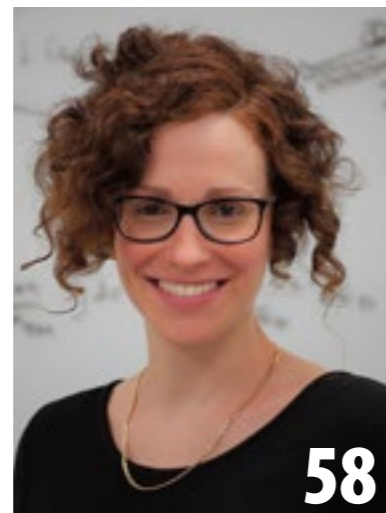
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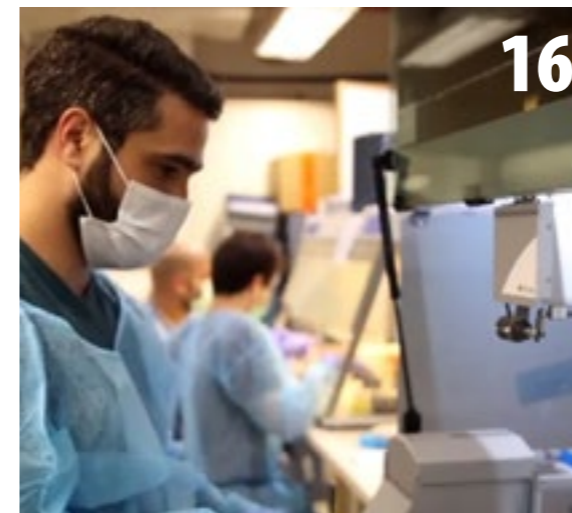
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Editor: Shoshana Israel

Staff Writer: Devora Liss

Assistant Editors: Devora Liss, Nehama Miller & Sarit Petersen

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Cover: **Roni Ben-Ami** is pursuing her Master of Science in Biomedical Sciences at the Hebrew University's Faculty of Medicine, having previously received her MD at the University. Read about the COVID-19 testing facility that Ben-Ami was integral in launching on page 16. *Photo by Bruno Charbit*

# Impact Revolution:

By Yaron Neudorfer



Photo by Ilya Melnikov

**Yaron Neudorfer** is founder and CEO of Social Finance Israel, the first financial institution in Israel to issue Social Impact Bonds. He also serves as the Chair of the Israel National Advisory Board (NAB). He previously served as CFO of The Jewish Agency, the largest not-for-profit organization in the country, as well as in the Israeli Ministry of Finance. Neudorfer holds a BA in Accounting and Economics from The Hebrew University of Jerusalem, and a Master in Public Administration from The Harvard Kennedy School of Government.



## How a Change in Mindset Can Change the World

**I**n recent years we have repeatedly heard the terms impact investments, social investments, and ESG (Environmental, Social and Governance) investments. These terms all refer to a new direction in which the world economy is heading, especially in the last 12-15 years.

We are witnessing a real revolution. More and more investors (having started with young people) are interested in investing in line with their values. The desire is to direct their investments to channels that also have a social or environmental benefit to humanity. This will create a tremendous opportunity,

which if we know how to take advantage of, can significantly improve our lives, our communities, and our planet for many years to come.

Today, the focus is broader than “impact investments.” Rather, we are already talking about the concept of an “impact economy,” a system by which consumers, investors, and shareholders will challenge entrepreneurs and executives to show that they generate their profits in a manner that contributes to public good. In my opinion, impact economy consists of four main approaches:

**1** Impact Investments - in various and diverse investment categories (asset classes), including shares, real estate, contracts, and bonds, there are investments that look at the return - but also at the social impact of the investment. Some investors may be willing, for this purpose, to settle for a lower return and big impact, and others will seek market rate returns, but no less important – social/environmental good. We should be able to offer both types of investors the right opportunities in which to invest.

**2** Impact Business Management - About a year and a half ago, in an extraordinary announcement by 181 executives of the largest companies in the US, they stated that they will no longer focus solely on the profit line for investors, but will move from shareholder management to thinking and stakeholder management. From now on, there will be a greater consideration for employees, customers, suppliers, and the community in which the company operates, not just the maximum return to shareholders.

**3** Impact Consumption - All of us, beyond being employees or managers, family members or community members, are also consumers. It is in our power to push the places and businesses from which we need to conduct business, to fairly promote social and distributive justice, solving social problems and avoiding the corruption of the planet. One of the examples we like to give concerns retirement. We all have (in accordance with Israeli law) pension savings. The vast majority of us do not know what our pension

money is invested in. If we require fund managers who manage our money to be in accordance with the principles of impact or ESG and not invest in “bad” things, we can actually divert the world’s large money to impact. Revolutionary!

**4** Impact Accounting - This is a real revolution. Imagine that by reading companies’ financial statements, you could analyze not only their economic and financial performance but also the exact financial cost of their societal or environmental actions. A team of top experts in the field, headed by Prof. George Serafeim of Harvard Business School, are now leading the thinking and writing of new accounting and reporting rules that will make it possible to know the cost of a company’s operations in terms of impact and financial minds. For example, consider an airline that earns \$800 million a year. After analyzing the economic impact of their actions on the environment, we understand that the company’s operating cost as well as the environmental damage it causes produces a total cost of \$1,200 million, so net it brings in a loss of about \$400 million. This is a particularly powerful tool. It will allow us to analyze return / risk / impact on any investment, allow governments to accurately tax polluters (those who harm society) and avoid imposing such a tax on all citizens and most importantly - will allow necessary transparency on the making of companies in the world.

In my opinion, in the coming years we will continue to see this trend toward impact investing intensify in the world in general and in Israel in particular. Israel is a world leader in social impact and innovation and has the ability to lead due to the existing technological excellence in the country. It’s my hope that we can continue to identify many solutions on a large scale for social and environmental problems in Israel and around the world, and create a lasting impact for future generations.

# Impact Evaluation in Action

By Prof. Barak Medina, Rector

Universities can have a huge social impact - both as an educational institution and in serving society. But it’s not enough to feel that you are making an impact; one needs to collect and analyze data that shows how much of an impact one is truly making. Enter: social impact measurement.

Each year, the Hebrew University awards scholarships to students in-need. These scholarships provide financial assistance to approximately 1,500 students yearly. The scholarships are funded by private donors and government support. In order to examine the impact of the scholarships, the Hebrew University turned to Social Finance Israel (SFI) to cooperate in analyzing the economic and social impact of the investment in scholarships.

SFI develops result-focused social projects in a variety of areas (education, employment, welfare, health, etc). Alongside this, SFI has gained extensive knowledge in conducting research linking social outcomes to economic returns.

## Areas that will be examined include:

1. The socio-economic impact of the scholarship program on students and the Israeli economy.
2. Identifying opportunities to improve socio-economic efficiency in the allocation of scholarship funds.
3. The number of graduates coming from peripheral areas and/or minority groups in the population, who were able to complete their academic studies thanks to scholarships.

Through this collaboration, it is our hope that by analyzing and evaluating the students who received scholarships over the past 10 years, we can gain a better understanding of their impact on Israel and the world.

Stay tuned to future Scopus issues for results of this study!



## Consider the Impact on:



**...The Globe:** Impact Ventures are a key component in the 17 Sustainable Development Goals adopted by all United Nations Member States in 2015. The Goals (SDGs) have targets such as reducing poverty, increasing gender equality, providing access to clean and affordable energy, and creating more sustainable cities. Simultaneously, impact investors are looking to identify and invest in enterprises tackling these same targets.



**... The World of Finance:** The driving force behind the global Impact Revolution is Sir Ronald Cohen, a pioneering philanthropist, venture capitalist, private equity investor and social innovator. His ground-breaking initiatives have catalyzed global efforts to drive private capital to serve social and environmental good.



**... The State of Israel:** The Israeli Forum for Impact Economy serves as the local Israel National Advisory Board (NAB) within the international Global Steering Group (GSG) to accelerate an impact economy that will deliver social, environmental, and economic value and produce sustainable economic growth. Social Finance Israel is a social enterprise that promotes the flow of capital towards solving issues in Israel, through the use of innovative financing tools. As the first and only social investment intermediary in Israel, SFI is developing the Impact Investing sector with the ultimate goal of positively impacting the lives of citizens nationwide.



**... The Hebrew University:** The role of academia in training the next generation of impact investment professionals and cultivating evidence-based standards and practices is an integral part of a thriving Israeli impact investment ecosystem. The study of impact investing at Hebrew University’s Jerusalem School of Business Administration is at the forefront of academic research – creating best of breed data platforms, empowering decision makers with impactful executive education and leading pioneering projects in the most challenging business & social scenarios.

# The Impact Revolution

## Impact Investments and Social Entrepreneurship

### A Roundtable Discussion with Leading Hebrew University Alumni

In early Fall 2020, the Hebrew University's Division for Advancement and External Relations and the Hebrew University Alumni Association organized a roundtable discussion on **impact investing**, which equally emphasizes capital returns and positive social or environmental impact. The panel hosted prominent Hebrew University alumni for a discussion on what drives them as impact investors and to share success stories, challenges, and opportunities.

The panel featured **Cecile Bliliou**, Head of Impact & Sustainability, Pitango Venture Capital; **Yoel Cheshin**, Chairman & Founder, 2B Group; **Sandrine Montsma**, Managing Partner, Bridges Israel, **Yaron Neudorfer**, CEO, Social Finance Israel.

Moderator: **Dr. Dan Marom**, Faculty member at the Hebrew University's Jerusalem School of Business Administration and Head of the Impact Investing Institute.

**Marom:** I see impact investing as the alignment of capital with values, and I hope that our conversation will inspire members of our audience to become impact investors. Could you share your personal journey to impact investing?

**Bliliou:** In the early 2000s I was managing the Noaber Foundation's Israeli investments, thinking about ways to bring together values, capital, and tech. A decade later, I founded Impact First Investments, Israel's first impact investing company. Today I am at Pitango, Israel's largest venture capital fund, where I incorporate impact investing into general venture capital. This is the future – scaling impact investing through mainstream investments.

**Montsma:** Until recently, my career had been in private sector management. In 2016 an acquaintance, who is now my business partner, called and asked if I'd heard about impact investing. I hadn't. He sent

me some information and asked me to meet with Sir Ronald Cohen [a pioneer in impact investing – Scopus] in London the following week. Sir Ronald Cohen spoke to my deepest values and common sense. I kept thinking, "Of course! That's where I want to be!" In 2018 I co-founded Bridges Israel, which invests in Israeli companies that serve the socio-economic periphery and in Israeli technology companies that generate global impact. Bridges Israel is both a private equity and a venture capital fund, and has made 10 investments to date.

**Neudorfer:** Unlike Sandrine, I was in the public and third sectors. I worked for the Ministry of Finance and then served as the Chief Financial Officer at the Jewish Agency. I realized we were dealing with a new type of donor. They don't just write a check – they think like investors. They want to see what their marginal dollar is doing for the beneficiary. In 2012 Sir Ronald Cohen recruited me to serve as CEO of Social Finance Israel

(SFI), the first social investment house in Israel. I also chair the Israeli National Advisory Board on Impact Investment, which brings together major players to advance the impact movement.

**Cheshin:** I was teaching philosophy and law, and my brother was in finance. I'd always wanted to go into business with him, but he refused. When he was tragically killed in a car accident, I founded the 2B Group, which stands for two brothers. I started with 2B-Angels, a high-tech venture fund. I also wanted to get more money to philanthropic causes without relying on the goodwill of donors – NGOs that protect basic human rights shouldn't have to beg for money. So I founded 2B-Community. I still saw business

on a sliding scale, based on the degree of success. We recently launched Israel's first municipal social impact bond to help isolated seniors during the Coronavirus lockdown in Tel Aviv. Visiting volunteers will create the capacity for seniors to access municipal services and teach them to use technology to communicate. We will measure this program's immediate and long-term impact on the seniors' lives.

**Cheshin:** My example is Central, which is part of 2B-Angel's portfolio. It's a company that uses gamification to enhance the performance of corporate salespeople. You might ask: Sales? Corporations? Impact? The company believes in helping employees become the best they can – employees are at the center.



Cecile Bliliou



Yoel Cheshin



Sandrine Montsma



Yaron Neudorfer



Dr. Dan Marom

and philanthropy as separate. But when I became a member of Toniic's 100% Network, pledging all of my own capital to net positive impact, I went back and looked at 2B-Angel's portfolio and realized that although I'd invested in them as regular businesses, most of them, from my point of view, were impact investments. It's a matter of spirit.

**Marom:** I find that the best way to inspire people, to bridge the gap between intention and action, is to focus on a specific example. What project are you most proud of?

**Neudorfer:** I have a recent example – from social services. Currently, national or local governments issue tenders, distribute funds, and hope it all works out. SFI does things differently: the social impact bond, or the "pay for success" model. Investors fund projects that have specific, pre-defined criteria for success. If met, the government returns the investment with interest

The company's services enable employers to invest in the employees' performance, help them learn and engage, and prevent alienation. Any business that has human-centric goals, or has a conscience, is, in my mind, impact.

**Bliliou:** My example is from tech: Via, an Israeli ride-sharing company that creates affordable and accessible public mobility solutions around the globe. They enable people without access to cars or regular transit to reach jobs, healthcare, education, and more. Via offers a solid product, a solid solution, and a solid business plan. They are data-driven, and we can measure their impact – less pollution and traffic.

**Montsma:** I knew Cecile would bring a tech example, so I'll offer one that's quite different. Ibrahim Nsasra is a Bedouin (and an HU alumnus) whose children came home from school hungry one day – they'd refused to eat their school's lunch. Ibrahim discovered

their meals were prepared by a Jewish caterer whose menu was foreign to Bedouin culture. He hired four Bedouin women and arranged with the Ministry of Education for them to provide meals. Today, Nazid Impact Food employs 100 Bedouin men and women, providing them with income, opportunity, and growth, while also feeding over 20,000 Jewish and Bedouin kids a day. His company constantly receives top reviews, and his catering business is one of the most profitable in Israel. This was also the first, and I hope not last, private equity investment in Israel's Bedouin community.

**Marom:** Our audience might think that impact investing sounds too good to be true. Could you share any gaps or obstacles that you think might be preventing impact investing from becoming mainstream?

**Neudorfer:** One challenge is the role of government. In 1993, the Israeli government decided to invest in high-tech, using public money to attract private investors – and today we're the Start-Up Nation. The government should encourage the market to play a role in impact investing. We've seen some slow progress, such as the Commissioner of Capital Markets requiring institutional investors to disclose whether they have an environmental, social, and corporate governance (ESG) or impact policy. In recent months, the state has provided Coronavirus relief funds to businesses – a combination of loans and grants. The government could determine social or environmental criteria, and businesses who meet the criteria would have their loans converted to grants.

**Cheshin:** Every investment should bring value. But I take a different approach to measuring value. "Social businesses" may offer returns lower than market-rate, while still creating social value. We've invested in Ogen, which gives 3% loans to people who do not qualify for bank loans. And some corporations don't even measure their impact yet still move humanity forward. Mobileye knows that the more it sells, the more lives it saves. Impact investing is slowly changing the world. The CEO of BlackRock recently said that his investment management company will begin considering social values. I look forward to the day when there isn't a distinction between impact and non-impact investing.

**Montsma:** The biggest challenge in the Israeli market is the institutional investors who hold most of the public capital – pension funds and insurance companies. Managers of these funds always ask, "Why should I care about the environment? My duty is to maximize returns." But around the world, fiduciary duty is understood more holistically. As one Dutch pension fund CEO said, "How can I invest in a polluting company that will make my customers pay higher taxes in 20 years?" Yaron mentioned the Israeli National Advisory Board. We're all members. One of our main objectives is to increase awareness of the need for capital among companies who are creating social and environmental value.

**Bliliou:** I used to hear, "If you want business, talk to me in numbers. If you want philanthropy, talk to my family foundation." Impact investing was perceived as risky – and no facts could change people's minds. As a regular venture capital fund, Pitango cannot compromise on returns. At the same time, social impact must be quantifiable – you need to measure something. We also need to ensure that large, successful companies are mission-aligned, accountable, and transparent about their impact. This will help debunk myths about compromises or trade-offs. Ultimately, I'm encouraged by the numbers: Over the last 6-7 years, the impact investing market has doubled in size – annually.

**Marom:** How does your time at the Hebrew University relate to your activity as an impact investor?

**Cheshin:** I studied and taught Philosophy and Law at the Hebrew University and was sure I'd eventually become a professor. I especially love Milton Friedman (American Economist). I've applied two concepts from philosophy and corporate law to impact investing. A corporation is an entity, just like a human being. Each is made up of different parts, divisions, teams, and organs. The more these are coordinated, the more capable the larger body will be. This has nothing to do with morality – a holistic approach increases effectiveness.

**Bliliou:** I was a terrible high school student, and the Hebrew University was the first place that taught me to put my curiosity to good use. The University opened my mind and paved the way to continue learning



throughout life. This has helped me throughout my career, enabling me to think about things differently.

**Montsma:** Unlike Cecile, I was a good high school student, and was planning on becoming a nuclear scientist. I eventually studied economics at the Hebrew University, an experience that influenced my entire career. Besides opening the door to management, my time at Hebrew University enabled me to understand the connection between impact investing, basic economics, and values. It had a great impact on my career.

**Neudorfer:** As a student at the Hebrew University, I saw many of my peers, very bright students, drop out because of financial hardships. This experience was in the background when SFI launched its first social impact bond to reduce drop-out rates of Computer Science students, which has been quite successful.

**Marom:** One of my goals in holding this roundtable is bridging intention and action. Not only sharing ideas with our audience but helping them transition into taking action. What message do you have for our readers? How can they become impact investors?

**Bliliou:** So many people want to meet and learn about impact investing, but I simply don't have enough hours in my day. I founded the Global Impact Tech Alliance, where impact practitioners can connect with each other, train others in a scalable way, and present more opportunities to take action and enter the impact investing market.

**Neudorfer:** My advice is simple. Next time a representative of a financial institution tries to lure you with slightly lower management fees, simply ask whether they have an impact investment plan. If so, promise to transfer your entire account, because you want your money to be doing good. If they don't, request that they create such a plan.

**Montsma:** Not everyone will become an investor. But the Hebrew University can nurture other aspects of the impact ecosystem, by making sure everyone understands its basic principles: do good, avoid doing harm. Doctoral students can research questions that will advance the impact economy, or alumni working for the Ministry of Finance can incorporate impact considerations into budgets. Impact can, and should, be part of alumni's lives, no matter what they do.

**Cheshin:** My advice is to better understand business. Most of my meetings start off with dreams about changing the world. But it's not enough to have a philanthropic heart; you need to understand the world, business, and how things work. This is how impact investing can outgrow its niche.

**Marom:** Thank you for participating in this inspiring roundtable discussion. Your different perspectives have been greatly enlightening.

Readers are invited to view the roundtable discussion at [campaign.huji.ac.il/roundtable](https://campaign.huji.ac.il/roundtable)

# Every Challenge an Opportunity

## How the Coronavirus Crisis Enabled the University to Show Compassion to Our Students

Scopus talked to Hebrew University Rector, **Prof. Barak Medina** (left), and the Dean of Students, **Prof. Guy Harpaz** (right), about ways in which the shutdown of the campuses and the transition to remote learning challenged the students' academic experience and services normally provided by the University – and how these proved to be an opportunity to increase outreach, think creatively, and show compassion towards our students.



**Scopus:** In mid-March, the University transitioned to online learning. How did this affect the experience and needs of Hebrew University students?

**Medina:** The most significant change was that students no longer had face-to-face contact, preventing them from meeting, studying together, and supporting each other. Of course, the transition to remote teaching/learning wasn't easy, it was an entirely new experience for students and faculty alike. In addition, students lost their incomes because typical student workplaces, such as restaurants and bars, shut down.

**Harpaz:** This crisis has challenged our students academically, financially, emotionally, and socially. My office provides many different services, and we've been learning how to adapt them to current times. It's not enough to have the best students and faculty – we also need to provide them with the best support. This is a delicate balancing act – helping students succeed without sacrificing academic standards.

**Scopus:** What are some specific challenges that students faced, and how was your office able to help students throughout this crisis?

**Medina:** We postponed the Spring 2020 semester by a week and required that all faculty undergo pedagogical and technical workshops to prepare them for remote teaching. Although the transition to online teaching was

rapid, we had an excellent and smooth semester. On the financial front, the University management established an emergency relief fund. Through the financial aid unit within Guy's office, we distributed funds to nearly 1,000 students who were negatively impacted by the crisis and shutdown. We continue to raise money and are helping more students than ever before.

**Harpaz:** One of the most demanding challenges was providing academic support to struggling students. In ordinary times, counselors drop in on first-year courses. As Barak said, these in-person encounters couldn't take place. We reached out to two sectors who were at a heightened risk of dropping out: students from a lower socio-economic background and first-generation students. We maintained our tutoring services – entirely online. In addition, we encouraged academic units to accommodate students by offering more dates for assignments and exams. Besides the funds Barak mentioned, we were also able to provide discounts and payment plans for the dormitories. On the emotional front, we continued offering psychological services to all students – including the intake of new cases. We created a website where students could leave their details and a therapist would call them back within a few hours. Lastly, to enable students to connect and learn, we provided NetSticks to increase internet connectivity, lent out laptops, and

even helped particularly needy students purchase digital equipment.

**Scopus:** Looking back at the Spring 2020 semester, how do you define success?

**Harpaz:** As head of the Israeli Forum of Deans of Students, I know that the Hebrew University was more generous and more accommodating than other academic institutions. But I think it's best to listen to the students. We conducted surveys of the entire academic year and individual courses; in the annual survey, general satisfaction rose. That's not to say there weren't difficulties and that there isn't room for improvement. But students had a positive experience. There was no increase in the number of students requesting to withdraw. This indicates students' confidence in their abilities, as well as the University's ability to help them succeed.

**Medina:** Besides the surveys that Guy mentioned, we can compare grades across years in any given course. Student performance was similar to previous years – indicating that students succeeded in learning. Another measurement of success is looking ahead at the 2020/21 academic year. Student enrollment has risen, and the dorms are fully booked. Students are voting with their feet; they trust the Hebrew University to provide them with a positive experience while adhering to the highest academic standards.

**Scopus:** You'd mentioned room for growth. What challenges still lie ahead?

**Harpaz:** We need to develop ways to better help students with learning disabilities. The same barriers to online learning exist for online support. We've acquired a computer program that converts text to audio, and hope that it will increase accessibility for students with learning disabilities.

**Medina:** One central challenge we faced is exams. Where would they take place? How would they be administered and graded? During the Spring 2020 semester, some courses were graded pass/fail, largely due to this challenge. Yet this crisis has presented an opportunity to make overdue changes to our pedagogy – introducing creative teaching methods, project-oriented learning, group projects, and more. I see this as an evolution of our teaching, not a revolution.

**Scopus:** How has this crisis provided you with an opportunity to grow and serve students better in the future?

**Medina:** We fully realize the importance of welcoming students back on campus, while also allowing for greater flexibility. We're constructing ventilated study tents replete with outlets and Wi-Fi for students to meet, study in groups, or participate in online classes. Of course, in-person courses will also be broadcast online. We've invested in and upgraded the Wi-Fi infrastructure across our campuses and dormitories. Lastly, we're excited to offer a few dozen joint courses with universities abroad – allowing our students to have an international experience. I see these as a prelude to studying abroad, when that becomes possible again.

**Harpaz:** I find assurance in the numbers, which show that not only did we help our students stay afloat, but they managed to swim. The incremental improvements clearly indicate our ability to provide even better services when things return to normal. I'm proud that we are continuously identifying creative ways to help our students succeed during a pandemic – without compromising our academics. The world knows the value of a Hebrew University diploma, and we must adhere to the highest of standards.





# Impacting the National Fight Against the Coronavirus:

## The Joint Hadassah-Hebrew University Testing Lab

In ordinary times, the Hadassah Medical Center's virology lab runs standard medical tests – nothing urgent, nothing pressing. Then the Coronavirus struck. Led by Prof. Yuval Dor, researchers at the Hebrew University's Faculty of Medicine realized that they were in a key position to contribute to the national effort – by directing their manpower and machinery to running Coronavirus tests.

In mid-March, as Israel geared towards its first shutdown, Hebrew University faculty and graduate students began establishing a lab adjacent to Hadassah's virology laboratory on the Ein Kerem campus. This effort was supported by the joint Core Research Facility, which houses and operates sophisticated biomedical equipment.

A call went out, summoning researchers and graduate students to partake in the effort. Dozens volunteered and were selected based on their areas of expertise, with an emphasis in applied laboratory experience and molecular biology. A second call was never necessary.

*“This emergency was different. Unlike wartime, now all sectors were together at the front lines. Arabs, ultra-Orthodox, and secular Israelis – people from all walks of life signed up to help establish the lab.”*

Roni Ben-Ami, MD-PhD candidate

The first task at hand was proving that Hebrew University faculty and staff were up to the task of conducting top-notch clinical work, and not only

research. Within a week, Prof. Dana Wolf, who heads Hadassah's Virology Unit, gave her approval for the lab.

### Doing More with Less

Another step was identifying creative ways to run tests more efficiently. Faculty of Medicine researcher Dr. Yotam Drier along with Hebrew University alumni Matan Seidel and Tal Sido, recalled a WWII-era innovation by the American political economist Robert Dorfman: group testing (or pooling). This method entails combining a number of swabs and running a single test – quickly ruling out infection for the entire group (or pool). If a group comes back positive, then each of the swabs is tested individually. This approach is especially valuable for testing large, asymptomatic groups who are likely to have lower infection rates, such as essential workers (e.g. factory workers, security forces) or residents of senior facilities.

To this end, Hadassah purchased a special robot capable of quickly and efficiently sampling and pooling individual swabs, while keeping track of each sample's origin. This enables the technicians to “backtrack” and test swabs individually if necessary. Thanks to this machine, the joint virology lab swiftly conducted up to 8,000 tests a day early on in the pandemic.

*“We've really developed state-of-the-art testing that involves top-level robots.”*

Josh Moss, MD-PhD candidate

### A Lab is Born

The Hebrew University laboratory officially opened on March 24, 2020, following an intense week of preparations. Faculty and staff ran endless tests, underwent lengthy trainings, and validated (and re-validated) their results. The laboratory's operations were streamlined, ensuring a seamless flow of swabs and diagnoses.

Magen David Adom collects swabs from the public, which are transferred to Hadassah. As these swabs potentially carry the live virus, Hadassah staff renders the virus incapable of infecting before pooling the tests. Next, the Hebrew University staff extracts the RNA and runs polymerase chain reaction (PCR) tests. The diagnosis process takes around 6 hours, after which Hadassah staff validate the results.

*“There is satisfaction knowing that there is a worldwide pandemic and you can help in some way.”*

Itia Magenheim, Research Assistant

Three lab workers staff each shift. Initially these were volunteers, but as Israel's economy reopened, they began receiving salaries. The Hadassah lab accepts incoming swabs around the clock, and the Hebrew University lab remains open as long as there are fresh swabs to process – often until 1 or 2am.



### Leading the National Testing Efforts

Thanks to the ability to pool tests, the joint Hadassah-Hebrew University laboratory emerged as a leader in the first months of the pandemic. As of early June, the lab had conducted nearly 100,000 tests, totaling 15% of the tests conducted nationally.

*“I know that the pandemic made the students more motivated to do science. I know that many of the unmet needs in medicine are to be solved by them. I'm very happy to know that these people will be the future of medicine.”*

Prof. Dina Ben Yehuda, Dean of the Faculty of Medicine

With the pandemic still raging, the joint laboratory has been an immense source of pride for the Hebrew University community. Faculty members, researchers, and graduate students were quick to act in a time of crisis and they drew upon their advanced scientific knowledge to create a top-notch laboratory that continues to serve the nation. While we look forward to the day when the lab is no longer necessary, we can take heart knowing that Israel's best and brightest researchers are at the front lines.

# In the Eye of the Storm:

## Legal Clinic Volunteers Help Make Sense of Health Regulations



For the past 6 years, Adv. Ohad Amar has taught the *Representation of Marginalized Communities* course at the Faculty of Law and provided professional guidance for the roughly two dozen students who volunteer annually in the eponymous legal clinic. Each week, the students operate legal aid centers (clinics) in many of Jerusalem's peripheral and underserved neighborhoods, including Katamonim, Neve Yaakov, and Sheikh Jarrah. Residents come by

to learn their rights, get assistance realizing these rights, and discuss any other legal matters they may be facing. The student volunteers represent these clients when cases go to court.

As the Coronavirus spread across Israel and the country geared towards its first shutdown, official guidelines and restrictions were issued on a nearly daily basis – often changing and always written in legalese.

Almost immediately, the clinic was inundated with phone calls and emails from its existing clientele. As the questions flooded in, Amar realized that his clinic was likely a microcosm of the country as a whole.

Inspired by Brazilian educator and philosopher Paulo Freire, Amar identified the need to transfer information to those who lack access or understanding. He decided to launch an online hub where ordinary citizens could receive clear, concise information in an ever-changing reality. He reached out to six years of clinic volunteers and within 24 hours over fifty students and alumni had signed up. They'd launched two Facebook pages, one in Hebrew and one in Arabic.

*“The online hotline is an opportunity for us – students, alumni, and friends of the legal clinic – to rise to the hour and offer our assistance to the broadest public possible.”*

**Eden Levy**, Law student, coordinator of the Arabic-language Facebook page

The volunteers got to work translating the regulations and laws into laymen's terms and answering questions. While the hotline did not provide legal aid per se (rather, referring relevant cases to the clinics), it did take on a number of larger trends that emerged from the complaints:

- Supermarkets raising prices. The volunteers compiled a report that was submitted to the Minister of the Economy and later participated in a Knesset committee meeting on this topic.
- Long wait times when calling the National Insurance Institute (NII). The clinic met with the NII Director General and Knesset Member Aida Touma-Suleiman to discuss this matter.
- Many applications for various benefits do not exist in Arabic. The clinic appealed, along with a number of other civic organizations, and the NII Director General promised that all interfaces would be translated into Arabic. Hotline volunteers translated hundreds of applications.
- Single mothers, people with disabilities, and recipients of other forms of income support reported losing their stipends after being

furloughed, as it seemed they were no longer employed (a condition for the stipend) and because the law forbids receiving two stipends at once. In addition, people with preexisting debts to the NII received reduced unemployment payments. The volunteers compiled a policy paper on these matters. In July 2020 the Knesset passed a relief package that permitted for dual stipends through June 2021.

- People with disabilities reported their aides being wrongly fined for being outside. The volunteers appealed all such citations and they were cancelled.
- Unclear guidelines for divorced parents with joint custody. The clinic asked the police for more detailed guidelines.
- Clarifying the rights of furloughed employees, helping them realize their rights for unemployment and other benefits.

During the first shutdown (March-May 2020) the volunteers answered over 2,000 questions. As Israel gradually emerged from the first shutdown, hotline traffic slowed down a bit, but picked up again with the second shutdown, which started mid-September. During this period, the volunteers created five Facebook posts providing clear, detailed information about the current guidelines. Today, the volunteers continue to answer questions about the current regulations while also helping individuals whose benefit applications were rejected, submit appeals.

Combined, the Hebrew and Arabic posts had over 15,000 likes. Today, nine months after the crisis began, nearly 6,000 people continue to follow both Facebook pages.

*“The hotline's success demonstrated people's need for knowledge and the importance of this knowledge for realizing their rights. By providing answers, the online hotline empowered underserved populations across the country, while involving the knowledgeable in this important endeavor.”*

**Adv. Ohad Amar**

# Coronavirus Research Highlights

## Creating an Inhospitable Environment for the Coronavirus

Prof. Yaakov "Koby" Nahmias (Bioengineering) looked into how the virus affected lung cells and discovered that it shut down the cell's ability to burn fat – leading to optimal conditions for its own reproduction.

Using Tissue Dynamics technology, Nahmias discovered that drugs from the fibrates family, ordinarily used to lower triglycerides eliminated viral replication. More recent clinical study showed that COVID-19 patients who were taking fibrates were protected from the respiratory damage induced by the virus.

Nahmias's findings are currently undergoing Phase 3 clinical studies in the United States, South America, Europe, and Israel – a scientifically crucial step in translating this finding into a safe and effective treatment for COVID-19 patients.

## Saving Time, Lab Supplies – And Lives

Dr. Naomi Habib (Edmond and Lily Safra Center for Brain Sciences) and Prof. Nir Friedman (Life Sciences & Computer Science) have made two significant contributions to the process of Coronavirus testing.

First, they developed an efficient and low-cost method to expedite the extraction of viral RNA from swabs. Instead of using consumable reagents, the RNA is separated using tiny magnetic beads that can be repeatedly reused.

Second, they developed a novel framework for large scale testing, using DNA sequencers (rather than the standard PCR machines). By attaching a small DNA barcode to each sample, it becomes possible to combine hundreds or even thousands of swabs in a single test tube, while accurately determining which individuals test positive for the virus.

Individually and combined, these discoveries have the potential to efficiently, accurately, and rapidly, identify infected people through mass testing – enabling the re-opening of the economy while maintaining public safety.

## Piecing Together the Puzzle: A New Protein-Based Treatment for the Coronavirus

Prof. Ofer Mandelboim (Medicine), working with the Israel Institute of Biological Research, has discovered a way to prevent Coronavirus infection, which has proven very effective in cell cultures and in mice.

Infection occurs when the Coronavirus spike protein binds to the ACE2 receptor (proteins) on our lung cells, securing their entry into the cells. Mandelboim injected mice with the actual spike and ACE2 proteins, thus simultaneously inhibiting the virus from binding to the cells and also blocking their only way in.

Looking ahead, Mandelboim hopes that these proteins will be mass-produced and tested on humans. Although it cannot be patented, this method has the potential to save millions from infection, illness, and death.

## Social Isolation & Our Brains

Dr. Shahar Arzy (Faculty of Medicine) is a cognitive neuroscientist. Working with PhD student Mordechai Hayman, he set out to understand ways to help the elderly, chronically ill, and immunosuppressed cope with isolation resulting from social distancing.

They used fMRI scans to understand how our brains relate to our close friends and family, our wider circle of acquaintances, and celebrities. They found that while celebrities are the farthest, there are not significant differences between our immediate and wider circles of friends – any face-to-face contact is beneficial. In addition, he emphasizes the importance of tangible objects, such as a grandchild's art project sent via the mail.

Arzy is now working on an app that will map and quantify social networks, optimizing engagement and minimizing isolation of vulnerable individuals.

## Selective Capture of the Virus

Prof. Micha Asscher (Chemistry), Prof. Amir Sa'ar (Physics), and Prof. Ofra Benny (Pharmacology) are developing a porous silicon-based patch for medical professionals to insert within their protective face visors or masks. Optical tools can instantly reveal whether the pores, whose size can be adjusted to precisely that of the Coronavirus (or any other object of interest), have captured any nanoparticles. If so, the wearer can get tested for the virus immediately.

The researchers plan to develop a second-generation patch with more specific diagnostic capabilities – eliminating the need to wait 2-3 days for test results before returning to work.

## An Innovative Coating for Creating Anti-Viral Surfaces

Prof. Meital Reches (Chemistry) is developing a spray that can be applied to surfaces, rendering them anti-viral. Treated surfaces would kill the virus, reducing transfection through door handles, faucets, and banisters in hospitals, trains, supermarkets, and elsewhere.

This spray is based on an existing coating Reches developed that prevents the growth of fungus, yeast, and bacteria. The spray adheres to glass, metal, and plastic surfaces thanks to DOPA – the amino acid that helps mussels "glue" themselves to rocks.

## It's All up in the Air: Transmission of the Coronavirus

Dr. Nadav Kashtan (Plant Pathology and Microbiology) and Dr. Liraz Chai (Chemistry) are studying how the Coronavirus survives the journey between people, increasing transmission.

In an initial study, Kashtan demonstrated that the virus survives better in microdroplets of saliva than other media (e.g. water). Now, the duo is studying the physio-chemical properties of saliva from different people, looking for factors that may influence variances in the survival rate of the virus.

They hope that their interdisciplinary research will contribute to a slow in the virus's spread.

## Living through a Pandemic: A Child's Perspective

Prof. Asher Ben-Arieh (Social Work), along with research assistants Sagit Bruck and Hamutal Farkash, conducted a survey of Israeli children's experiences during Israel's first shutdown. It was based on a questionnaire developed by Children's World, an international project in which Ben-Arieh is a core member.

The survey revealed that children were curious about the Coronavirus and wanted adults to listen and consider their perspectives. While remote learning, school wasn't meaningful, and they experienced high levels of boredom. Compared with a study from 2017/18, the children reported feeling less satisfied and enjoying less freedom. At the same time, the majority reported feeling safe at home.

Next the researchers hope to conduct a comparative, international study through the Children's World network.

## Combatting Smoking and the Coronavirus

Dr. Yael Bar-Zeev (Public Health) has no time for buzzwords such as 'social distancing' and 'flattening the curve'. Instead, she wants to understand how the pandemic and shutdown have affected Israelis' smoking habits. Together with Prof. Yehuda Neumark (Public Health), she conducted an online survey during the first shutdown.

Approximately a third of responders who smoke reported increasing their intake during the shutdown. However, many responders expressed an interest in quitting and reported restricting smoking within their homes – giving Bar-Zeev hope. Along with other organizations, Bar-Zeev has outlined and continues to advocate for concrete steps that the Ministry of Health and HMOs can take to leverage smokers' interest and help them quit – once and for all.

## Exploring the Effects of COVID-19 Contagion on Israeli Cities

Dr. Yair Grinberger and Prof. Daniel Felsenstein (Geography) created a computerized simulation model for Israeli cities aimed at helping officials and decision-makers understand and plan for the long-term effects of disasters upon their cities. Until recently, this model was used for large scale catastrophic events such as earthquakes, fires, and missile attacks.

They have now expanded the model's capabilities to include a pandemic module, based on the public health SEIR model of contagion: Susceptible, Exposed, Infected, and Removed (recovered/dead). As their model explicitly addresses distributional questions, they hope to help decision-makers understand how particular pandemic policies, such as lockdowns and curtailing mobility, might affect diverse communities differentially.

## Two Advanced Drug Delivery Systems

Prof. Gershon Golomb (Institute for Drug Research) is an expert in developing drug delivery systems. Two of his ongoing projects are perfectly poised to help COVID-19 patients.

The first project is an anti-inflammatory drug formulation, which is wrapped in nanoparticles that deliver the drug directly to the body's immune system. The drug has completed two phases of FDA testing.

The second project is through the Fraunhofer Project Center for Drug Discovery and Delivery at the Hebrew University. It aims to employ small interfering RNA (siRNA) and drugs to disrupt the replication of the virus within the human body. Golomb is developing a navigator that will target lung cells, resulting in a more effective Coronavirus treatment.

## Caring for Those Who Care for Others

Jordan Hannink Attal recently graduated from the International Master of Public Health, defending her thesis during the shutdown. Having spent two years studying Israel's population of migrant care workers (MCWs), Hannink Attal immediately began studying MCWs' well-being during the Coronavirus shut-down.

Along with her coinvestigators, Prof. Yehuda Neumark (Public Health) and Dr. Ido Lurie, MPH, the team discovered that many MCWs suffered from depression and anxiety, lacked food security, and didn't have adequate access to Ministry of Health guidelines. Furthermore, many of their rights under Israeli law were being trampled. Hannink Attal is currently conducting her third study, focused on the post-lockdown period.

## Social Isolation Adversely Affecting Well-Being

PhD student Lior Zeevi and Dr. Shir Atzil (Psychology) collected and analyzed video diaries recorded during Israel's first shutdown. By coding the subjects' behavior second-by-second, the researchers were able to analyze their well-being and regulatory processes.

The researchers divided the subjects into three groups: singles, couples, and couples with children. Their data show that single men and fathers had the worst self-regulation, while women tended to fare better overall. The study also showed that improved self-regulation is associated with better relationships, especially in times of crisis.

## Predicting Non-Adherence to Public Health Directives

Dr. Yehuda Pollak (Education) applied his knowledge of ADHD and risk-taking to identify predictors of non-adherence to the new public health restrictions, with the understanding that non-compliance endangers not only the individual, but their surroundings as well.

Conducted along with PhD student Haym Dayan, Prof. Itai Berger (Social Work) and HU alumna Dr. Rachel Shoham, Pollak's two studies revealed several factors – some of which were pre-existing (e.g. gender) and some of which correlated with respondents' current state (e.g. psychological distress). These studies were the first to show a correlation between non-adherence to ADHD, a history of risk-taking behavior, criminal activity, and more.

# The AlBashaer Leadership Program: Helping East Jerusalem Residents Apply for Benefits

The AlBashaer leadership program operates within the Social Involvement Unit in the Dean of Students Office. Outstanding second-year students from East Jerusalem join the program for three years, during which they volunteer in the community and focus on career development. The students run a variety of programs that introduce East Jerusalem teens to the Hebrew University and its academic programs and opportunities, with hopes that the teens will decide to pursue a higher education.

During the first Coronavirus shutdown, furloughed employees were eligible for unemployment benefits. Yet the National Insurance Institute (NII) website, through which applications were submitted, is not in Arabic. Poor internet infrastructure and technological access in East Jerusalem, along with the fact that many residents are sole breadwinners for large families – resulted in a dire situation. AlBashaer rose to the challenge.

Summer Jaber-Massarwa, who heads the program, contacted the Jerusalem municipality to inquire about volunteer opportunities. Within 24 hours they had developed a detailed workplan, along with the Employment Bureau, to help East Jerusalem residents

apply for benefits. The very next day, students began receiving phone calls, compiling workers' documents, translating, and filing applications online.

*“After helping so many strangers and receiving their gratitude, I felt confident helping members of my own family apply for, and realize, their rights.”*

I. AlBashaer participant

Over the course of two weeks, 35 students worked around the clock. They filed applications on behalf of over 600 East Jerusalem residents, primarily blue-collar laborers. When cases were more complicated, or employers refused to provide the necessary documents, students referred workers to WAC-MAAN, a workers' organization that represents laborers across Israeli society. A handful of AlBashaer students were so impressed and inspired by WAC-MAAN's commitment to Israel's most destitute workers that they now independently volunteer with the organization.

*“Bless you, you have helped me and my family so much”*

T. 46 years old,  
East Jerusalem



*“Thank you for helping me apply for unemployment”*

Y. 60 years old,  
East Jerusalem

# Maayan Bamidbar:

## A Reciprocal Tutoring Program

Maayan Bamidbar (trans. A Wellspring in the Desert) is a reciprocal tutoring program rooted in the idea that both Jewish and Arab students need help, and both have something to offer – all while building a friendship outside of one’s ordinary social circle.

*“Meeting with Intissar allowed me to improve my ability to communicate in a language that is spoken in my country but of which my surroundings rarely approves... Now I’m able to read signs, understand occasional sentences, and approach Arab speakers more readily - thanks to this project. The smiles I get in response are so valuable that I can’t deny the program’s impact!”*

Shay



*“Ayelet is more than a tutor, she’s become a true friend. Through her, I’ve come to view the Jewish world differently, and look forward to having Jewish friends.”*

Raghad

Jewish-Arab pairs meet for 2-3 hours a week, during which the Arab student receives help with Hebrew, academic writing, and often math and English. The latter half is spent teaching the Jewish student spoken Arabic.

Operating within the Hebrew University since 2018, the program’s impact is evident. Increasingly, Jewish and Arab students hang out on campus together – studying, eating, and schmoozing between classes.

# Bridging the Secular-Religious Divide:

## Beliba Homa

Netanel grew up in an ultra-Orthodox family and studied at religious institutions. He had always been curious and knew he’d eventually enter academia. After completing an academic preparatory program, he began studying law and East Asian studies at the Hebrew University.

Erez grew up in the secular world. He went to a science-oriented high school, served in the IDF, and traveled the world before deciding to pursue a degree in the Hebrew University’s political science, philosophy, and economics (PPE) program.

*“Netanel taught me how special and simple it can be to meet a complete stranger ... The most rewarding aspect of this program was meeting friends whom I otherwise wouldn’t have met.”*

Erez

Netanel and Erez met through *Beliba Homa* (trans. A Wall in Its Midst), which brings together ultra-Orthodox and secular students for mutual enrichment. The ultra-Orthodox student receives much needed academic assistance and support, while the secular student has the opportunity to connect with someone from a different background.

Netanel felt that Erez was the first student to look beyond his external appearance and connect with him as a fellow human – free of stereotypes and prejudices.

Erez came to recognize what he had in common with Netanel, which the media downplays in favor of accentuating differences. He valued the direct

encounter with an ultra-Orthodox student, while appreciating the personal and social sacrifices that Netanel made when he chose university studies.



Photo by Yuval Pan

*“This program has enriched me significantly, both in terms of encountering a world very different from my own, and in terms of making me examine and refine my own beliefs.”*

Netanel

# Protecting the Rights of Youth at Risk

The Children and Youth Rights Clinic is one of eight legal clinics operated by the Hebrew University Faculty of Law. Student volunteers ordinarily run programs and youth centers, advocate for policy reforms, and offer legal aid and representation.

Some of the Coronavirus' first social casualties were youth at risk, whose already precarious position was further destabilized by the first shutdown. The Clinic took on a number of unique cases, positively impacting youth at risk on both the personal and policy levels.

During the harshest phase of the shutdown, many at-risk youth received fines for being over 100 meters away from their homes – even when those homes were unhealthy or unsafe. The Clinic helped contest 25 such fines.

Additionally, services for at-risk youth were eliminated and boarding schools and other educational frameworks either shutdown or enacted inordinate restrictions. As a result, over 1,000 children opted to remain at home or on the streets. The Children and Youth Rights Clinic was partner to a case filed in the Supreme Court against the Ministry of Education, who eventually allowed for more flexibility in welcoming students back.

*“We shine the spotlight on those children and youngsters who are otherwise invisible – Corona or no Corona. The Clinic’s role is to protect these children and speak up on their behalf.”*

**Adv. Shiran Reichenberg**, Head of The Children and Youth Rights Clinic

In another case, the hunt for a laptop with which a client could connect to remote learning led to a deep dive into the ways in which unequal access to technology had become unequal access to education. Law students Arielle Elkayam and Tair Atias, along with social work student Zohar Galil, joined forces

with the Tamid Project, a teen-run organization that refurbishes computers. They helped with publicity, a visit to the Knesset, and a volunteer day for local and national leaders. Arielle and Tair submitted the findings of their research in support of a lawsuit being pressed in the Supreme Court on this matter.

*“Thanks to the efforts of many, many people, the government now realizes the scope of the problem and is working to resolve it. We’re glad to have helped raise awareness, including providing information to the court petitioners.”*

**Atias & Elkayam**

Lastly, the Clinic’s Street Law Project works with convicted youngsters as part of their court-mandated rehabilitation plan. When the shutdown prevented them from preparing their annual mock trial, the students developed creative alternatives. The group from East Jerusalem, run by Hanan Hneif, Francis Tuma, and Mona Gawi, focused on case-studies, with students presenting their analysis and fielding questions from the audience. Participants from West Jerusalem, under the guidance of Smadar Laufer and Adiel Zanzouri, chose issues near and dear to their hearts – and developed legal arguments in support of their positions.



# Teacher-Scholar

The Teacher-Scholar program trains Hebrew University PhD graduates to teach matriculation-level STEM subjects in Jerusalem’s high schools, all while continuing their research. This program addresses the shortage of qualified science teachers in Israel, retains excellent researchers at the university, and introduces high school students to academia.

Dr. Suheir Sayed Omar is one such Teacher-Scholar. She has been conducting organic chemistry research at the Hebrew University for more than a decade and decided to become a Teacher-Scholar to give school children the tools and encouragement they needed to succeed in their studies.

*“This program is my way of giving back to the community by sharing my love of learning with the younger generation.”*

She currently teaches chemistry at a high school in East Jerusalem. She is both the first Arabic-speaker in the program, and the first to connect her students with the Hebrew University. While initially only nine students registered for chemistry, eleven more quickly joined after hearing their friends enthuse about her teaching. To further motivate her students, she regularly discusses her triumphs and failures in the lab, exposing her students to the life of a scientist.

Now in its sixth year, the Teacher-Scholar program has placed 26 talented teachers in Jerusalem high schools, reaching 650 students. Cumulatively, the Teacher-Scholars have published 45+ scientific articles, registered three patents, obtained 10 research grants, and mentored over 25 undergraduate students.



# ASPER-HUJI Innovate

## Smartphone Lessons for Seniors



Gabi Arnovitz studies economics and business administration at the Hebrew University. A few years ago, he began bringing together student volunteers and seniors for smartphone lessons, and participated in the first cohort of ASPER-HUJI Innovate's entrepreneurial program, OPEN Social. He joined forces with Uriel Shuraki, who was teaching similar classes in community centers, and David Suraqui – to begin developing a startup.

Not surprisingly, when in-person classes were cancelled due to the Coronavirus, demand for their service skyrocketed. Within ten days of advertising, 600 seniors had signed up for their digital course. By late May they had 1,700 students and by November the number had exceeded 2,200 participants. Nine months into the pandemic, they continue to create new lessons on a weekly basis. Cumulatively, their lessons have been viewed over 120,000 times! The course is offered free of charge.

Most participants were already familiar with WhatsApp, thus making the app a convenient medium for the

message. Instructional videos are delivered daily – the seniors need only to hit play, watch, and learn! Each 3-8-minute lesson focuses on a particular function of their smartphones or social platforms, such as adjusting the volume, forwarding images, silencing groups, the flashlight, various apps, and more.

They also began holding weekly Zoom sessions, both to teach seniors how to use the program and as a forum to support their learning. The meetings were such a success that they began providing additional content, such as a lecture on fake news, which 176 people attended.

This project was the first to be awarded a 5,000 NIS grant from ASPER-HUJI Innovate and the Student Union, in response to a call for proposals that employed technology to alleviate loneliness caused by social distancing.

Arnovitz, Shuraki, and Suraqui are fully committed to keeping the basic program free of charge, while continuing to develop brand name recognition. They recently completed their first paid, online course – using Facebook.

## Kinoko-Tech: A Zero Waste Protein Source

With backgrounds spanning plant science, microbiology, and food science, Jasmin Ravid, Dr. Daria Feldman, and Hadar Shohat were perfectly poised to invent an alternative source of protein when they founded their startup, Kinoko-Tech.

The trio came together around Feldman's idea to develop a platform and method for growing mycelia for use in food production. They have developed a zero-waste method for growing a complete protein, with nutritional values on par with animal protein.

In 2019 they completed ASPER-HUJI Innovate's pre-accelerator program, OPEN AgFood.

Looking forward, Kinoko has secured initial seed money and plans on registering their method as a patent. This will enable them to scale-up production and begin approaching food manufacturers in Israel and abroad.

*“ASPER-HUJI Innovate was precisely the push we needed to realize our idea and bring it into fruition.”*

Jasmin Ravid, CEO





# HU Students Volunteer to Tutor East and West Jerusalem High School Students

In the spring of 2020, Israeli schools shut down just as high school students were beginning to prepare for their matriculation exams. Prof. Inbal Goshen of the Edmond and Lily Safra Center for Brain Sciences at the Hebrew University realized that many youngsters were likely not getting the help they needed during this crucial time. Her familiarity with their needs was the result of having previously taught a class at Leyada - The Hebrew University Secondary School.

Goshen contacted heads of faculties and departments across the University. Within a week, she had assembled a virtual team of 140 students, which eventually grew to 179 volunteers. Using digital platforms, these volunteers tutored over 200 high school students from 11 schools in a wide variety of topics ranging from physics, mathematics, biology, English, Arabic, computer science, history, and Bible.

Thanks to Goshen's initiative, and thanks to the students' commitment, struggling high schoolers received much-needed help and ended the 2019/20 academic year on a high note.

*“I was glad when Prof. Goshen reached out during the first shutdown. Many of our students needed extra academic support, especially with distance learning. The Hebrew University student-tutors were professional and committed to helping. The teens made real progress and saw the Hebrew University students as positive role models. This is a great example of how academia can be involved in the community and society.”*

**Dr. Gilead Amir**, Leyada Principal 2019/20



## Pharmacists of Excellence

Dr. Hadar Arien-Zakay is a senior lecturer at the School of Pharmacy, Institute for Drug Research at the Hebrew University's Faculty of Medicine. In addition to her teaching and research, she volunteers running Pharmacists of Excellence.

The story began eight years ago with the Israeli pharmaceutical company Dexcel Pharma, who has an R&D division in Jerusalem and manufacturing plants in two peripheral towns: Or Akiva and Yokneam. Situated south and south-east of Haifa, these small towns are at or below the national average in terms of average income and socio-economic status.

Arien-Zakay assumed responsibility of the project along with then-doctoral candidate Amit Badihi. In 2014/15 they began with one class in Or Akiva. They asked teens about their interests and familiarity with different medicines and diseases. Working with the teachers, Arien-Zakay created hands-on lessons aligned with both the Ministry of Education curricula and the teens' real-world experiences – such as ADHD, acne, anxiety, drugs and addiction, pain, asthma, and cosmetics. The lessons are taught by young, energized doctoral students who demonstrate

how scientific research and discovery can be relevant to the teen's lives. Students are introduced to cutting-edge technologies and a fascinating career path.

*“Naturally, high school students want to know the relevance of their studies to their lives. When I hear them say a class was “interesting,” I know they connected with the subject matter and want to learn more. That's when I know we're in the right direction.”*

**Dr. Hadar Arien-Zakay**

Since its inception, Pharmacists of Excellence has expanded significantly. In 2019/20 the program operated in three schools, including one in Jerusalem. They teach eight classes, totaling 200 students. Each year culminates with a science fair featuring students' research projects, along with an educational tour of a Dexcel facility. The program has made an impressive impact. Schools are selected for their waning science tracks; today, demand for chemistry has risen, and many chemistry tracks now operate at full capacity.

## aChord: Social Psychology for Social Change – Translating Social Psychology Research into Practice

Prof. Eran Halperin is a researcher of social psychology. He applies psychological and political theories and methods to investigating different aspects of intergroup relations and conflicts.

On campus, Halperin heads the Psychology of Intergroup Conflict & Reconciliation Lab, while off-campus he founded and heads aChord: Social Psychology for Social Change. aChord was founded in 2016 to translate academic research into practical tools for organizations working to create social change, including combatting racism and discrimination.

The center's vision is to promote equal, tolerant, and respectful intergroup relations – both within Israeli society and between Israel and its neighbors. To that end, aChord conducts research, develops workshops and trainings, designs tools and interventions, and consults partner organizations to better understand and address the psychological barriers that stand in the way of optimizing their effectiveness.

Two of aChord's main foci are employment and education. In terms of the former, aChord promotes the integration of Arab citizens of Israel into the workforce by working with companies and job applicants. During 2019/20, the center ran diversity and inclusion trainings for 31 companies and organizations, offering a total of 42 workshops in

which 550 people participated. Since the program's inception in 2016, a total of 1,800 participants have gone through these trainings. Next, the center plans to begin a similar process with the ultra-Orthodox sector.

*“Working with aChord has changed how we see people and how we build on the strengths of individuals who are part of this company.”*

T., CEO of a high-tech company

On the educational front, aChord works to promote education for shared society in myriad schools all over Israel. During 2019/20, aChord worked with 21 schools and 20 teacher communities nationwide, working directly with 3,800 students who participated in workshops and other activities. Another 2,200 students were impacted indirectly, through their teachers' participation in aChord's teacher communities.

*“I really enjoyed the classes. They gave me the ability to see the bigger picture of where I stand in the world. I recommend having these classes in other schools because they open your mind to new opinions and thoughts.”*

N., student-participant



aChord staff presenting Tav Tikva Israelit (Standard for Israeli Hope) at the official residence of President Reuven Rivlin. aChord spearheads this shared society program, which is a partnership with the President of Israel and the Lautman Fund.



Photo by Yael Ilan

## The Living Lab in Memory of Noam Knafo z"l

Prof. Inbal Arnon (Psychology) studies the acquisition, processing, and representation of language. Prof. Ariel Knafo-Noam (Psychology) studies the development of pro-social behavior and empathy among children.

In 2014 they founded Israel's first and only Living Lab, located in the Bloomfield Science Museum adjacent to the Edmond J. Safra Campus. The Lab welcomes visiting families, where the children participate in a short, fun activity that teaches them about the science of child development while simultaneously contributing to it. While children participate in studies, parents can discuss current research in the field of child development with the Lab's staff.

*“The Living Lab is a great example of effective community outreach that also generates cutting-edge science. It is a win-win situation: we get to widen the scope of our developmental research while educating children (and parents) about the beauty and importance of science.”*

Prof. Inbal Arnon

In founding the Lab, Arnon and Knafo-Noam aimed to make developmental findings accessible to parents and the community at large; conduct cutting-edge developmental science; and expose children to scientific research that involves people as a way of increasing children's interest in science.

To date, the Lab has hosted eight researchers from different fields. In 2019/20 alone (when the pandemic forced the museum to close for extensive periods of time), the Lab hosted 15 separate studies. Over the years, findings from the Lab have been the basis for 50 conference presentations and 20 journal publications. The Lab has also trained numerous undergraduate and graduate students how to conduct developmental research.

*“The vision of the lab is to expand its activities to include children from groups underrepresented in research.”*

Prof. Ariel Knafo-Noam

Over 8,000 children have participated in these activities, sparking conversations about science and strengthening their affinity to the field. In addition, Lab staff have talked with thousands of parents.

In terms of findings, Living Lab researchers were the first to demonstrate that motivational principles shape children's values already at age five and that children's values at this age predict their generosity. Researchers have added crucial evidence to the nature/nurture debate by showing that children and adults play a different role in the emergence of linguistic structure (using a creative Chinese telephone game), and that children's statistical learning abilities change with age.

# Hebrew University Alumni

## *on the Front Lines:*



# Combating COVID-19 Worldwide

The Hebrew University-Hadassah Braun School of Public Health and Community Medicine's International Master of Public Health Program (IMPH) currently has over 900 alumni worldwide. Holding key positions across sectors, IMPH alumni are truly at the front lines of the pandemic: setting national or local policies, coordinating and providing health services, communicating with the public, and more.

*“We established a dedicated COVID-19 group in response to an alumnus who had been tasked with developing his country’s pandemic protocols.”*

**Dr. Maureen Malowany**, IMPH Alumni Academic Coordinator

The IMPH program maintains an active alumni network over many platforms including WhatsApp. Since the outbreak of the pandemic, alumni have actively reached out to each other and to their alma mater for professional advice and guidance, as well as to share their experiences on the ground. While preventive measures are identical worldwide (e.g. hygiene and masks), IMPH alumni have come up with creative, context-specific solutions to combat the virus in their home countries.

Another way IMPH alumni came together was through the MASHAV-BRAUN School Global COVID-19 Forum, which was co-launched by the Braun School and MASHAV (Israel's Agency for International Development Cooperation of the Ministry of Foreign Affairs). Eighteen webinars connected IMPH alumni with Israeli and international public health practitioners and researchers and provided an opportunity for participants to share their own experiences, successes, and challenges fighting COVID-19.

The webinars covered a variety of topics: mental health services, food security, personal protection, cyber-surveillance, protecting vulnerable populations, virus sequencing to understand variations, smoking behavior and tobacco control, aging populations, and more.

*“Each week we are reminded of how much we can learn from one other, and how much we are dependent on one another to tackle this global public health crisis.”*

**Prof. Yehuda Neumark**, Director of the Braun School

**Prof. Adesegun Fatusi**, MBChB, MPH, FWACP, PhD (IMPH 1995)  
**Vice-Chancellor, University of Medical Sciences, Ondo, Nigeria**

“In April, the Governor of Ondo appointed me to the State’s 7-person COVID-19 Response Fund Committee (RFC), which mobilizes and manages funds to fight the pandemic in Ondo, home to 3.5 million people.

In July, he appointed me to head the state’s Inter-Ministerial Committee (IMC), which monitors the rate of contagion, coordinates the different ministries’ responses, formulates strategies and policies, and advises the government.

I led the IMC in outlining a strategic roadmap against the pandemic based on scientific and evidence-based approaches, along with community education and engagement, and enforcement of preventive measures. The IMC worked with local and international partners, including the Nigerian Centre for Disease Control, UNICEF, and the private sector.

Through the RFC and in partnership with the IMC, the University of Medical Sciences, UNICEF, and the private sector, we established three new isolation wards, expanded the Infectious Diseases Hospital, constructed a molecular biology laboratory, obtained four new ambulances, and purchased equipment, including two ventilators.

All this was possible because I am recognized as a public health expert – the foundation for my career was provided by the IMPH program!”



**Peter Waiswa**, MBChB, IMPH, PhD (IMPH 2003)  
**Associate Professor, Makerere University, Uganda**

“My specialty is health systems and policy with a focus on reproductive, maternal, newborn, child and adolescent health, and nutrition (RMNCAH/N). I belong to an independent group advising the WHO General Director on continuing these services during the pandemic, with an emphasis on low- and middle-income countries.

I also support the Ministry of Health by drawing upon national data to develop evidence-based responses to the pandemic. These include advocating for services, advising stakeholders on ways to circumvent the virus’ effects, and conducting RMNCAH/H presentations and training for districts and hospitals.

On the clinical side, I belong to an independent advisory committee overseeing a Ugandan trial of convalescent plasma transplants for COVID-19 patients.

All this has been possible by collaborating with the Uganda Ministry of Health, the World Health Organization, UNICEF, academia, other districts, and civil society organizations.

My work has been influenced by two aspects of my studies at the Hebrew University, namely community-oriented primary care and epidemiology training.”



Photo by Tom Magumba

## Dr. Sandra Gómez Ventura, MPH, PhD (IMPH 1996)

Researcher and Independent Consultant, Honduras

“When the pandemic struck, I was teaching tele-medicine to medical students in rural areas. Later, through the Shalom Association, MASHAV in Guatemala, and the International Federation of Medical Students’ Associations (IFMSA), I taught these skills to an additional 300 practitioners.

I co-founded three different pandemic-related organizations. First, the Honduras Research Consortium, an umbrella group of 30 researchers. Second, the UNITEC Observatory of Dengue and COVID-19, which issues a bi-weekly national report. The third is Frena la Curva Honduras (FLCH, Flatten the Curve), a map-based website for posting needs, offers, and learning

about nearby organizations that offer assistance. Along with Foundation Lucas, UNITEC, and Alivio, FLCH established a free tele-medicine clinic. Together with Fundación Lucas and IFMSA Honduras, FLCH organized donations of PPE. I conducted trainings on preventive measures, the safe disposal of PPE, developed manuals for safely using public transit – over 2,000 people have accessed this information on Facebook.

Thanks to IMPH, I learned how to work with people from different cultures and how to conduct research. I see myself as part of a large community, where I can ask and give advice. IMPH alumni are my family.”



## Öykü Turunç, MD, MPH (IMPH 2020)

Research Assistant & Resident Doctor, Dokuz Eylül University Faculty of Medicine, İzmir, Turkey

“The pandemic broke out during my IMPH studies. I was called back to Turkey to work on the front lines and continued my classes online.

I work in the department of public health, which established a contact tracing system for health workers who test positive for the virus. I call to assess these workers’ condition and identify the source of infection. Next, I call their contacts to determine the risk of infection and the best course of action. Our four-person team makes approximately a hundred phone calls a day.

I also work in the COVID-19 Pandemic Clinic for Hospital Workers, where I assess and test workers who suspect they may have been infected, referring them to the contact tracing team when necessary. We handle approximately 80 cases a day.

In addition, all doctors work bi-monthly shifts in the Emergency Pandemic Clinic, assessing and caring for community members who display COVID-19 symptoms.

The knowledge and skills that I gained at the Hebrew University are invaluable to my work preventing the spread of the Coronavirus among the 4,000 health workers at my hospital.”

## Rilwan Raji, MBChB, MPH (IMPH 2013)

**Surveillance Officer & Head of the World Health Organization subnational office in Cross River State, Nigeria**

“I ordinarily detect, report, investigate, and curtail diseases of public health importance in Cross River State, home to over 4 million people. The Coronavirus response now consumes half my time.

Most importantly, I worked to convince the sub-national government that hiding suspected cases posed a danger to public health.

I worked with the Nigerian Centre for Disease Control (NCDC) to develop an action plan and trained 2,000+ surveillance personnel in detection, contact tracing, and isolation practices.

Working with the NCDC, the public sector, and the local public health department we upgraded the infectious disease hospital and Calabar Teaching Hospital laboratories, introducing PCR testing.

Access to a local lab has increased testing and made it easier to detect and isolate cases.

Along with a number of local UN agencies, I participate in bi-weekly coordination meetings and have trained nearly 5,000 health care workers. Providing them with knowledge, PPE, and sanitization measures has reduced their infection rates from 30% to 7%.

Working alongside UNICEF colleagues, I have been involved in the development and dissemination of educational materials on hygiene and preventive measures in the community.

My ability to support the Nigerian government in responding to the COVID-19 outbreak was greatly assisted by the classwork and project in Community-Oriented Primary Care at the Braun School.”



Photo by UNICEF

## Ambassador Dr. Josephine Ojiambo, MD, MPH (IMPH 1989)

**Lecturer at University of Nairobi & Kenyatta University; Rotary International representative to UNICEF Kenya & UN office in Nairobi; Director of the Peter Ojiambo Foundation**

“Since the outbreak, I have been serving as Rotary International’s liaison to the Ministry of Health’s national task force. In this position I have been involved with the deployment of sanitation measures, PPE, and other necessary supplies across Kenya – enabling over 5 million handwashes and distributing 46 thousand food packages.

I recently signed a memorandum of understanding between Rotary and UNICEF Kenya to provide the sanitation necessary to re-open 400 schools in January 2021, enabling 160,000 students to safely continue their studies.

I also serve as liaison to the National Business Compact on the Coronavirus (NBCC), which is part

of the Ministry of Health’s national task force. Working with the private sector, NGOs, and academia, I’ve helped fundraise and advise the Ministry of Health on strategic responses and behavior changes, including deploying 7,500 hand-washing stations to hotspots.

I was recently appointed Director of the Peter Ojiambo Foundation, where I undertook a survey of Kenyans living with disabilities under the Coronavirus, in order to inform national- and county-level communications, services, and product design during the pandemic.

The MASHAV-BRAUN webinar series truly expanded my choice of interventions, as I drew upon the wealth of knowledge of IMPH alumni.”

# Students Making an Impact – Of Their Own Initiative



## Forstart: Computer Science Students Impacting the Younger Generation

Classmates Tzvi Michelson, a Schulich Leader, and Mohr Wenger noticed two things about their peers studying towards a degree in computer science & engineering. First, most came from academic or high-tech-oriented families. Second, most students were unable to apply for various service-based scholarships or stipends, as these require a significant number of volunteer hours per week.

In response, Wenger and Michelson founded Forstart, an educational initiative in collaboration with the Jerusalem Education Administration and the AlBashaer Leadership Program that operates under the auspices of the Dean of Students Office. The initiative brings together computer science students and middle and high school students from lower socio-economic backgrounds, whose families might not necessarily prioritize higher education. The tutor and tutee meet for weekly, three-hour tutorial sessions on the Edmond J. Safra campus, saving the students the commute. Visiting the campus introduces youngsters to academia and empowers them, inspiring them to consider higher education in the future.

In October 2019, Forstart began with six student-tutors and 25 kids. Today the program has grown nearly five-fold. Forty student-tutors work with 120 kids from across the city – in both East and West Jerusalem, including a group working with ultra-Orthodox girls.

Before the program began, only 38% of the youngsters believed they could successfully learn computer science; after the first semester, that number had jumped to a staggering 70%. By the end of the program, each student had designed and programmed a game in Python.

*“The Jerusalem Education Administration is proud to collaborate with the young, idealist computer science students at the Hebrew University. Forstart is bolstering the students’ sense of ability in computer science – an experience that will undoubtedly change the trajectory of their lives.”*

Edna Darnel, Jerusalem municipality



## Cassandra, Neighborhood Volunteer

When the Coronavirus pandemic struck in Israel, Cassandra Weinstein was studying towards an MA in Nonprofit Management at the Rothberg International School. She hails from London, UK, and had previously completed a summer internship at Beit Hagefen, a Jewish-Arab community center in Haifa. This experience reinforced her commitment to non-profit community work, leading her to apply to the Rothberg International School for graduate studies.

Over Passover break, Cassandra saw online how volunteers in the UK were helping their communities throughout the crisis. Living in the Student Village dormitories on Mount Scopus, she felt detached from the greater neighborhood, French Hill. She knew there must be a way to help, and that she and her peers, in their 20s, were not considered at high risk for contracting the virus or falling seriously ill.

She reached out to Artichoke, a pub and community center in French Hill, and they directed her to a social worker at the neighborhood's community council. One

of the neighborhood's most pressing needs was to ensure that some 400 families who could not buy groceries or leave their homes had a reliable supply of food.

Cassandra galvanized a group of 30 international students who had remained in the dorms during the first shutdown. She created a WhatsApp group, and they regularly volunteered distributing food packages in the neighborhood.

*“The French Hill Community Council is extremely grateful towards the wonderful international students of the Hebrew University who volunteered during the first shutdown. Thanks to their efforts, the neighborhood's elderly residents had a sufficient supply of food. These students were a crucial part of our emergency response team, and we greatly appreciate their help!”*

Eitan Idan, French Hill community social worker



Photo by Xavier Balleste

## Reem, Medical Student and Corona Volunteer

Reem Shemmer made aliya from England as a young child and grew up in Jerusalem. After completing his military service and traveling the world, he underwent EMT training with Magen David Adom (MDA) – where he fell in love with the medical profession. As a medical student, Reem finds himself surrounded by doctors, treating patients, and learning on a daily basis. This fills him with immense satisfaction.

When the pandemic struck, Shemmer was in his sixth year of medical school and was working as a doctor's assistant in Shaare Zedek's Department of Pediatric Emergency Medicine. When COVID-19 patients began arriving at the hospital, he gladly accepted an invitation to transfer to the Coronavirus ward.

*“The PPE was uncomfortable, and prevented human contact with patients. This was especially true for the older patients who were feverish and confused by the “aliens” in puffy white suits.”*

Being on the front lines within the hospital wasn't enough; Shemmer wanted to do more. As the number of patients rose, he returned to his “alma mater” – MDA. He initially conducted tests in people's homes, and later transitioned to volunteering at a drive-in test site. Despite his concerns about transmitting the virus back to his family, including his infant son, Reem was determined to help whatever way he could.

*“One moment that never failed to touch me was when a severely ill patient finally recovered and was being discharged. As the patient exited the Coronavirus ward, the medical staff stood in two rows, smiling and clapping, as the patient passed between them. For the first time, the patient could see the faces of the dedicated medical staff who had cared for them during their stay.”*





## Chaja, Undergraduate Coronavirus Researcher

Chaja Katzman is a third-year student of bio-medical sciences at the Hebrew University. She immigrated to Israel from the Netherlands four years ago. By enrolling in the Hebrew University, Katzman became one of the first in her extended family to attend university.

Until then, Katzman had very little exposure to science. Growing up in a religious community, she had taken only introductory classes. If Katzman gave science any thought at all, she imagined mixing substances and exploding bottles. But all that changed when she enrolled in the Rothberg International School's preparatory program's science track. Katzman fell in love and decided to apply to the bio-medical sciences program.

The program offers a summer scholarship to encourage students to gain hands-on research experiences. Katzman applied (prior to her first year!) and eventually joined the lab of Dr. Lior Nissim, a synthetic biologist. She has been there ever since.

*“Most biologists study, understand, and manipulate existing genes. But synthetic biology often seems closer to engineering. I am fascinated by this field, it's like a puzzle.”*

When the Coronavirus pandemic struck, Nissim's lab began working on three projects, in which Katzman played a key role. First, designing, cloning, and producing an engineered virus that enables mice to be infected with the Coronavirus for research purposes. Second, on a collaborative project between Nissim and Prof. Amiram Goldblum, developing an integrated computational and synthetic biology platform for testing the effectiveness of anti-viral drugs in combatting the Coronavirus. Lastly, developing a 1-minute diagnostic test in collaboration with the IDF and several hospitals.

During the first shutdown and in the weeks afterwards, Katzman worked on these projects relentlessly, spending 10-16 hours in the lab, seven days a week.

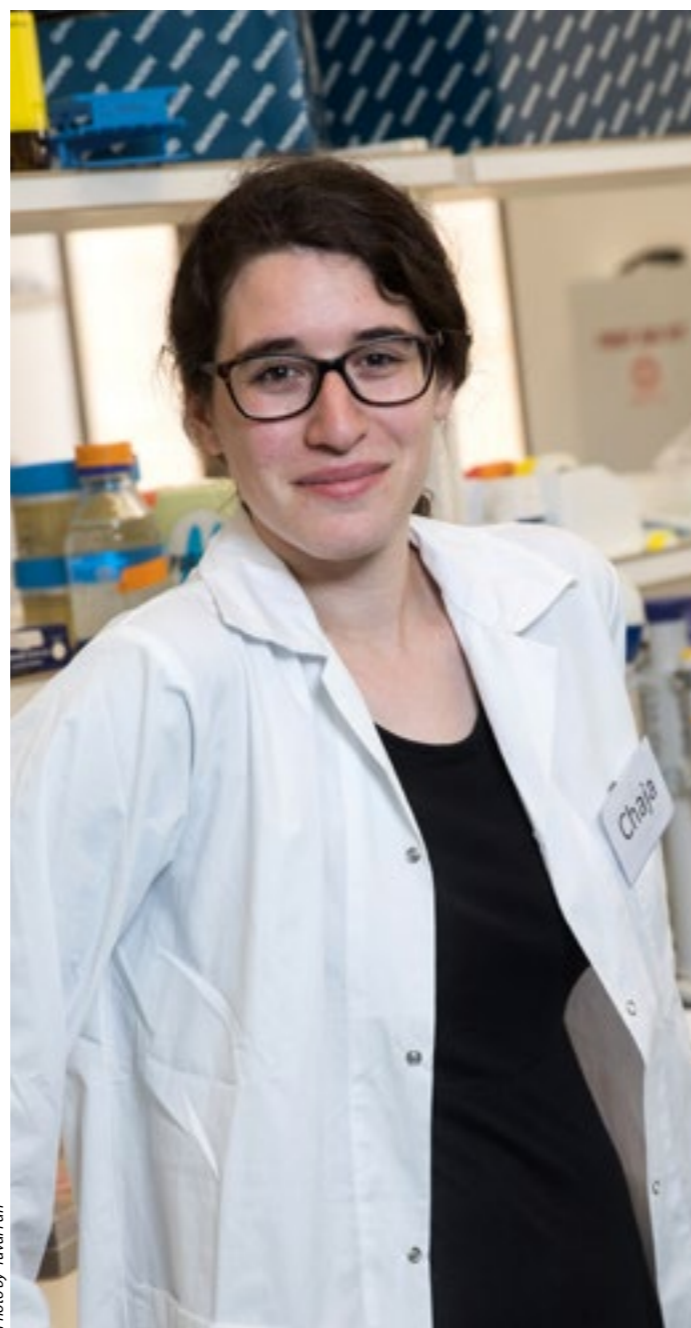


Photo by Yuval Pan

In fact, thanks to her efforts, Nissim's lab completed the first project in two and a half weeks rather than the requested month (which was already considered a very demanding deadline). In addition, Katzman received a congratulatory letter from Rector Barak Medina, along with a scholarship.

## Eliana, Testing for the Coronavirus - Close to Home

At first, nothing seemed out of the ordinary. The MDA ambulance pulled up and parked outside a building in one of Jerusalem's ultra-Orthodox neighborhoods. A woman stepped out and began preparing. She pulled on gloves and stepped into a PPE overall. She put on a facemask, donned the overall's hood and zipped it up, covering most of her face. She put a protective shield over her entire face and grabbed a Coronavirus test kit. She headed into the building – headed home.

The volunteer was Eliana, a first-year student in the Bio-Medical Sciences program. The person she was going to test was her brother.

Growing up in this ultra-Orthodox neighborhood, all higher education was considered taboo. In high school Eliana completed the Szold Examinations and earned a teaching certificate. Both were awarded on a pass/fail basis, meaning that Eliana never learned to take notes, review material, or study for exams. In fact, she almost never had notebooks and routinely skipped class. Deadlines were unheard of and she'd never been exposed to any core curriculum. Yet she graduated with straight A's and dreamt of becoming a doctor.

She moved by herself to New York and, after two years abroad, reached a brave decision: She'd enroll in the Hebrew University. Luckily, a few years ago the Szold Examinations were determined sufficient for applying to higher education – availing Eliana of the need to attend a preparatory program. Thanks to her time in the US, her English was quite good. Nevertheless, she was clueless where to start; she'd never heard of the psychometric exam, had minimal study skills, and hadn't a clue what the university was actually like.

After a month of studying online, Eliana took the psychometric exam and scored highly. She could apply to nearly any program she wanted, and chose to study bio-medical sciences.

Eliana's family has had mixed reactions. Some are ashamed, while others are glad that she returned from the USA. A few had tried to dissuade her, yet she countered with the approval of a rabbi with whom she'd

consulted. Slowly, her family has come to accept her decision, and even enjoy hearing stories from school.

When the Coronavirus pandemic struck, Eliana began volunteering at a drive-through test site. At that time, one of her brothers had been sent home from yeshiva to be in quarantine. But he wasn't sufficiently symptomatic to qualify for a test and was later told that quarantine was unnecessary. Yet Eliana was concerned: he was sharing a tiny apartment with nine other people, including their 80-year-old grandmother. She spoke with the drive-through director and received authorization to test her brother. Her concerns were valid – her brother's test came back positive.



*“I was proud to test my brother for Coronavirus. Suddenly, my family saw the importance of my studies and the reason I want to join the medical profession.”*

During the regular school year, Eliana receives academic tutoring through the Dean of Students Office. Advanced bio-medical science students help her with basic material, as well as provide an invaluable source of motivation.

Eliana sees herself as an ambassador, liaising between the University and her community. She openly discusses her financial aid, which does not cover all her expenses. She is also happy to advise on the myriad ways the university has helped her succeed.

Looking forward, Eliana still dreams of being a doctor. But for now, she is gaining academic experience and can decide later whether to transfer to medical school or pursue a career in research.

# Campus Tour

Grab your hard hat and check out the impact of new donations on campus. See how they are laying the groundwork for new and cutting-edge research and innovation.



HUJI Tech Park

## HUJI-Tech High Tech Park

With three buildings spanning a total area of 127,000 sq.m., an additional tower with a total area of 140,000 sq.m., and the expectation to create approximately 5,000 new jobs - High Tech HUJI Park will bridge academia and industry, providing a home for start-ups while fostering innovation across the University community.

This new exciting venture, the first high-tech park in Israel on a university campus, will solidify Hebrew University as a leader in technology and innovation.

A main advantage of the high tech park is the Edmond J. Safra Campus location. Already home to 50 companies - including international companies in high tech, cyber, biotechnology, nanotechnology, medicine, and pharma - the expanse of the park and its facilities will allow for even more rental space, business opportunities, collaboration, and expansion.

The architectural plans seek to merge traditional Jerusalem design with modern

aesthetic - incorporating arched alleyways, courtyards built with wells of light, a main thoroughfare and a rooftop balcony with views of the Old City.

The park will have development centers, offices, and laboratories on campus, and bright, open and versatile spaces that will be conducive to study, research, leisure sports, and work.



HUJI-Tech Park

## The Justice Mishael Cheshin Center for Advanced Legal Studies in the Faculty of Law



Cheshin Exterior View

Housed on the third and fourth floor of the Baron de Hirsch Meyer Building, The Justice Mishael Cheshin Center for Advanced Legal Studies, unites all advanced academic learning in law by graduate students and junior researchers in a spacious, open and light filled facility.

Established by the Faculty of Law in partnership with the Cheshin Family in 2016, the building is a testament to the work of former deputy Supreme Court president and Hebrew University graduate Mishael Cheshin, and his lifelong dedication to judicial activism. His widow, Ruth Cheshin, has been involved in the project since its inception, and seeks to make the Center a physical and intellectual hub of all graduate-level research and teaching in the field of law.

The Center's main space is an extensive area whose large glass walls and adjacent wraparound terrace offer views of the Mount Scopus Campus' main pedestrian thoroughfare and of the historic David Wolffsohn Building. The space will be used for large events and gatherings.

The Cheshin Center is part of a University-wide endeavor to create innovative graduate school-style centers that cater to different types of study. The third and fourth floor include a multitude of rooms, offices, and workspaces that allow for lone study, havruta-style pairs, small seminars, workshops, and formal lectures.



Cheshin Main Entrance

## NEQST Innovation Building

Hebrew University is a known leader in the fields of Nano and Quantum science. To leverage the potential synergy and provide cutting-edge infrastructure to each, the University has embarked on a bold initiative to create a new home for the Quantum Information Science Center together with the Harvey M. Krueger Family Center for Nanoscience and Nanotechnology. The NEQST (Nanoscale Quantum Science & Technology) Innovation Building will co-locate those two disciplines and combine their expertise and resources – making the building a hub for groundbreaking and life changing solutions. This project is made possible in part by support from Patrick Drahi.

The state-of-the-art building includes a glass exterior, enabling the use of natural light to brighten the interior and provide a bold and dynamic outer appearance. The building will have green building standards, ensuring energy efficiency and sustainable development.

NEQST will house 15 labs that will offer access to state-of-the-art technologies and technological expertise - enabling pioneering research in nanoelectronics, nanophotonics and 3D printing. The workspace will be constructed as a flexible lab – sharing equipment to leverage resources, thereby supporting more engagement and collaboration between researchers and ensuring faster results.



NEQST Innovation Building



NEQST Innovation Building



The Proposed Location

## The Barry Skolnick Biosafety Level 3 National Laboratory

Since the onset of the Coronavirus, Hebrew University scientists and students have been hard at work developing diagnostic screenings, therapeutic treatments, and vaccines to prevent and minimize the disease. But essential to battling the Coronavirus is the ability to conduct research that involves direct contact with the live virus without infecting those engaged in the research or the surrounding environment.

Hebrew University's Barry Skolnick Biosafety Level 3 (BSL3) National Laboratory will provide a facility fully equipped to provide necessary protection to its researchers. No other civilian or academic biosafety level 3 exists in Israel - putting Hebrew University at the forefront of the fight against COVID-19 and future pandemics.

The BSL3 is located at Hebrew University's medical campus adjacent to Hadassah Medical Center. This will allow researchers to have direct access to patients and patient samples and be open to civilians, academics, and clinical researchers across Israel.

The lab will have two wings: a virus isolation and tissue study wing as well as an animal research wing which would house biological (mouse) models infected with the virus.

The facility will be built according to the strict BSL3 standard, equipped with a special air conditioning system that operates at lower air pressure to prevent virus leakage and a full array of advanced testing and experimentation tools and high-level protective gear.



Laboratory

## The James J. Shasha Complex for Psychological Sciences



Shasha Exterior

The James J. Shasha Complex for Psychological Sciences at Hebrew University is making great strides in the study of psychology - housing programs, faculty, and students in a spacious and inclusive environment, and conducting cutting-edge research to train the next generation of psychologists, as well as the greater public, about the science of psychology.

Made possible by a generous gift from the late Argentinian businessman and benefactor, James J. Shasha, the 2,016 square meter complex was constructed atop three of the Faculty of Social Sciences' seven departmental-disciplinary blocks, constituting the fifth floor of these three blocks.

The complex, located on Hebrew University's Mount Scopus Campus, was designed by the internationally acclaimed town planner and architect, Dan Eytan, whose portfolio in Israel includes design of the Tel Aviv Museum of Arts, town plans for South East and Central Jerusalem, Tiberius and Tel Aviv, and a range of high-rise business and residential structures around the country. Like his other designs and city plans that mindfully integrate modern structures within historical cities, Eytan's design for the Shasha Complex

for Psychological Sciences has both an open vista to the historical Old City of Jerusalem and enhances the landscape and skyline of modern Jerusalem.

Programs housed in the complex include the award-winning Hebrew University Psychology Department and Glocal, an innovative 18-month graduate program, teaching MA students international development to empower communities in need across the globe.



Shasha Aerial View



# A Picture is Worth a Thousand Words

Long before anyone considered the possibilities of instantaneous communication, postcards served as the primary way to keep in touch, send pictures, collect souvenirs, and to share experiences with family and friends in far-away places. However, for London based-accountant and renowned postcard enthusiast, David Pearlman, 19th and 20th-century postcards from the Holy Land also serve as an invaluable window into the modern history of the Land of Israel.

For over fifty years, Pearlman actively worked to amass a collection of over 140,000 postcards that depicted many aspects of life and scenery in Palestine dating back from the time of the Ottoman Empire through the British Mandate and modern Israel. These postcards, the oldest one sold in Palestine in 1883, document an array of historical events that provide us with a window into the past.

For years, Pearlman stored the postcards in his garage, and when the collection grew too large, he moved his car to the street to make more room for his postcards. He reached out to Dr. Dani Schrire, director of the Hebrew University's Folklore Research Center to offer him a viewing of his collection for academic purposes.

After Schrire's visit to Pearlman's overflowing London-based garage, Pearlman truly realized the impact that his collection would have on future research and decided that the Hebrew University should be its new home.

In addition to collecting the postcards themselves, Pearlman has also researched their background,

providing the University with valuable documentation of the history of over 1,500 different postcard publishers.

Each postcard is unique, and many contain messages to friends and family members who had also spent time in Palestine. Pearlman's affection towards his collection is evident in his response to the question which postcard he loved the most. "They're all my favorites. It's like touching a piece of history."

Schrire and his colleague in the graduate Program for Folklore and Folk-Culture Studies, Prof. Hagar Salamon, were overjoyed upon receiving the collection and reflected upon the impact it would have in the future.

***"This collection has amazing research potential. The postcards are relevant to researchers studying art history, folklore, cultural studies, anthropology, communications, geography and more. It's hard to fathom how many disciplines can benefit from this collection."***

**Dr. Dani Schrire**, Director, Hebrew University's Folklore Research Center





**Dr. Yonit Hochberg** is an Assistant Professor of Theoretical Particle Physics at the Racah Institute of Physics at the Hebrew University. After completing her postdoc at UC Berkeley and Cornell University, she returned to Israel as a faculty member in 2017. She lives in Jerusalem with her husband and two little ones.

# Why Dark Matter Matters

## What does a theoretical physicist do, and why was it the career for you?

I was always driven to understand how things work from a very young age, I wanted to understand what our world is made of and how we got here. These are the questions that sit at the core of particle physics.

I primarily work to develop new theoretical ideas for understanding the particle identity of dark matter. I also work closely with experimental physicists to create more effective experiments to detect dark matter on earth.

## What is dark matter?

Dark matter is probably the biggest mystery in modern day physics. It's a substance that exerts a gravitational force and draws other matter towards it. It doesn't absorb or emit light, which is how it got its moniker 'dark matter.' We know there is five times more dark matter than the other ordinary matter that makes up all of us and the rest of the world. But we have no idea what it is.

## How do we know dark matter exists?

If we look up to the sky, we can assess how much stuff is out there by seeing how much light is emitted. We can also look at the movement of the stars which is affected by how much is out there. When comparing these two methods, we find that there is more of a gravitational pull than what we can see with the naked eye. What pulls on us but we can't see is the dark matter.

## What's currently on your agenda?

I am focused on the quest to uncover the identity of dark matter. As a theorist, I am constantly developing new conceptual ideas for experiments that can detect dark matter, whether with new types

of materials or very sensitive sensors. For example, I recently proposed two new experiments, one using diamonds and the other superconducting nanowires, that can detect dark matter a million times lighter than what other current technologies can detect.

A big challenge comes from the fact that we don't know the mass of dark matter – and different experiments can be sensitive to different masses. That's why it's so important to cast a broad net of experiments, to make sure we have the best chances of detecting dark matter.

Every experiment brings us closer to a better understanding. The process of elimination not only tells us what dark matter is not, it also helps us narrow our search in crafting more effective experiments.

## What makes dark matter relevant to "us normal folk?"

We literally owe our existence to the presence of dark matter. It's how the stars and galaxy were formed. Although we are unable to see it, dark matter is constantly interacting with us, even in our morning cup of coffee.

When we look for answers to the most fundamental questions, we uncover and even develop things we never would have expected. For example, the World Wide Web was developed by physicists who were simply looking to collaborate – and look where the Internet is today.

We hope to figure out what comprises dark matter, to find the answer to one of the biggest mysteries around us. Due to a plethora of experiments and technologies, these days are really a golden era for particle physics, and it's exciting to take part in the action.

# Friends Associations

## of The Hebrew University of Jerusalem

### ARGENTINA

T +54 11 4374 7045  
info@huji.org.ar  
www.huji.org.ar

### AUSTRALIA

T +61 2 9389 2825  
austfhu@austfhu.org.au  
www.austfhu.org.au

### AUSTRIA

T +43 1 795 3031  
Marcel.landesmann@gutmann.at

### BELGIUM

Brussels T +32 2 343 5546  
contact@uhjerusalem.be  
www.befhu.org

### BRAZIL

T +55 11 972 426 695  
amigosbrasiluhj@gmail.com

### CANADA

T +1 416 485 8000  
Toll Free 1-888-HEBREWU  
info@cfhu.org  
www.cfhu.org

### CHILE

T +56 2 955 5067  
simar.univhebrea.chile@gmail.com

### DENMARK

T +45 4583 8407  
solovej@math.ku.dk

### EUROPE

T +972 2 588 0455  
europeanoffice@uhjerusalem.org  
www.efhu.org

### FRANCE

T +33 1 4250 4323  
cbelais@uhjerusalem.org  
www.ffhu.org

### GERMANY

T +49 30 30 839 122  
info@fhuj.org  
www.gfhu.org

### ISRAEL

T +972 2 588 2840  
diklaa@savion.huji.ac.il  
http://alumni.huji.ac.il/  
http://shocharim.huji.ac.il/

### ITALY

Milan Office  
T +39 02 7602 3369  
aug.it@tiscalinet.it

### Rome Office/ BrainForum Italia

T + 39 339 886 6133  
info@brainforum.it  
www.brainforum.it

### JAPAN

T +81 75 461 4603  
tsujita@h2.hum.huji.ac.il

### LUXEMBOURG

T +352 2 402 545  
alainm@pt.lu

### MEXICO

T +52 55 9150 2995/6  
info@amauhj.org.mx  
www.amauhj.org.mx

### THE NETHERLANDS

T +31 6 5434 6641  
info@nvhu.nl  
www.nvhu.nl

### NORWAY

T +47 7 394 1270  
amycons@online.no

### PANAMA

ibtesh@rejevot.com

### PERU

amigos.uhj.pe@gmail.com

### PORTUGAL

T +351 937 589 095  
carp.jose@gmail.com  
europeanoffice@uhjerusalem.org

### SOUTH AFRICA

T +27 82 551 2126  
safhu@beyachad.co.za  
www.safhu.co.za

### SWEDEN

Stockholm T +46 70 89 49 481  
petergoldmanoffice@gmail.com

### SWITZERLAND

Zurich T +41 79 623 10 48  
info@huj-friends.ch  
www.chdfhu.org  
Geneva T +41 22 732 25 67  
geneva@uhjerusalem.org  
www.chfhu.org/

### UNITED KINGDOM & IRELAND

T +44 20 8349 5757  
friends@bfhu.org  
www.bfhu.org

### UNITED STATES

T +1 212 607 8500  
Toll Free 1 800 567 AFHU  
info@afhu.org  
www.afhu.org

### URUGUAY

T + 598 2 712 3523  
amigos.huji.uy@gmail.com

