



The Hebrew University of Jerusalem

SDGs Report



SUSTAINABLE
DEVELOPMENT
GOALS

January 2023



Scientific Progress

In 2022, the number of people living in poverty in Israel rose to over 2.5 million, more than 20% of the country's population. In Jerusalem, poverty is twice as high, with over 40% of the city's inhabitants remaining below the poverty line. Addressing this national epidemic requires policy change, an updated economic system, and cooperative efforts for confronting poverty.

The research of Prof. Mona Khoury-Kassabri, Vice President for Strategy and Diversity (Paul Baerwald School of Social Work and Social Welfare) focuses on issues related to child and youth welfare. In a study on the prevalence of emotional and physical maltreatment of students in primary schools by school staff in Israel, Prof. Khoury-Kassabri, in collaboration with researchers from the University of Michigan, demonstrates that students from poor and minority families in Israel are victimized by school staff more often than those from a higher socioeconomic background. The most vulnerable groups suffering maltreatment were males, students in Arab schools, and those in schools with a high percentage of students from low-income families. The researchers have formulated recommendations for educational campaigns among teachers, and for allocating more resources to support staff in low socio-economic neighborhoods.

Community Impact

Prof. John Gal (The Paul Baerwald School of Social Work and Social Welfare) leads a number of research projects on social and economic rights in Israel and is heavily involved in multiple efforts to eliminate poverty. Prof. Gal is a Principal Researcher and Chair of the Social Welfare Policy program at the Taub Center for Social Policy Studies. Prof. Gal led a team of senior welfare researchers in Israel in devising a comprehensive plan for the Right to Good Welfare, a multi-year reform plan for the welfare system in Israel, launched and commissioned by the Menomadin Foundation, and adopted by the Minister of Welfare. One of the main challenges addressed by the plan is how to deal with struggles of families living in poverty in the present and how to prevent future deterioration into poverty. As a member of the organizing committee of the Beatzmi Foundation, Prof. Gal has been central to the implementation of occupational programs for people from diverse sectors living in poverty.

Prof. Momi Dahan (Federmann School of Public Policy and Governance) has been studying the interrelationship between inequality and economic growth, the role of family in shaping overall income inequality and the optimal income tax schedule. Prof. Dahan's research efforts yield theoretical, methodological and empirical contributions that have led him to chair and serve as a member of numerous public committees and policy advice forums related to welfare policy and poverty reduction. Among these, Prof. Dahan chairs two steering committees in the Central Bureau of Statistics which measure poverty in Israel: the socio-economic and the peripheral measurement committees. Prof. Dahan has also given ad hoc advice on poverty to international bodies, such as OECD and IMF, delivers outreach lectures to numerous decision-making bodies, and is the author of a range of white papers on poverty.

Studies and Learning Initiatives

At the Baerwald School of Social Work and Social Welfare, students are learning methods for tackling poverty through formal channels, professional training and social involvement. A significant percentage of the students are tasked with addressing challenges of people living in poverty, at the individual, family, and community levels.

Dr. Eve Sihra (Bogen Family Department of Economics at the Faculty of Social Sciences) offers a B.A. course in "Development and Poverty in Economics," which tries to answer questions such as why some nations are rich while others are poor, or how to lift people out of poverty. Prof. Avner De-Shalit (Department of Political Science) offers a Master's Degree course in "Poverty Inequality and Disadvantage," focusing on the political and moral aspects of poverty and the policies aimed at reducing poverty.

Actions on Campus

At HUJI's Faculty of Law, the Clinical Legal Education Center combines legal theory and practice. The center comprises 8 clinics that provide free legal services to underprivileged and marginalized populations, and is operated by law students during the course of their education. This significantly enhances the professional perception of law students to include commitment to the community and social sensitivity, and promotes an understanding of the gap between law by the book and law in reality. The clinic operates two legal aid centers for members of the Ethiopian community living in poverty, and assists dozens of individuals every year in exhausting their rights to National Insurance, public housing, enforcement, and labor laws.



Scientific Progress

The increase in human population coupled with decreasing land area for growing food, make for one of the biggest problems facing humanity. In combination with a warmer, arid, and less predictable climate, hundreds of millions are facing severe hunger risks.

Prof. Zvi Peleg and Dr. Ittai Herrmann (Robert H. Smith Faculty of Agriculture, Food and Environment) are collaborating with Dr. Reut Barak Weekes (Faculty of Social Sciences and the Glocal International Development Program) on OptiWheat, a research project that aims to maximize food security in a changing climate by bringing together cutting-edge plant science, remote sensing, and community assessment tools to increase food security in developing countries. Dedicated to optimizing crop-use efficiency by applying genetics, physiology, and remote sensing methods alongside socio-economic approaches, OptiWheat lays the foundation for optimizing crop-use efficiency and for promoting climate-resilient wheat cultivars.

Different solutions for climate adaptation are required in different regions of the world. In the Middle East, drought is the major source of food insecurity. In international cooperation with Al-Balqa' Applied University in Jordan, HUJI researcher Prof. Henryk Hanokh Czosnek (The Robert H. Smith Faculty of Agriculture, Food and Environment) have developed a virus that enables tomatoes to better cope with periods of drought. Further research with potatoes, lettuce, and other foods is being carried out by additional teams from HUJI, to increase food security.

Community Impact

HUJI consistently strives to solve real-world problems by applying ideas generated through scientific research. Kinoko Tech, an innovative food-tech company, is producing the next generation of protein-rich food through fungi and fermentation. HUJI alumnae Drs. Dalia Feldman, Jasmin Ravid and Hadar Shohat, founders of Kinoko Tech, won the 2022 HUJI Asper Prize for Emerging Startups. Kinoko Tech's protein-rich food possesses ideal characteristics: it can grow in varied environments, produces zero waste, demands almost no energy and very minimal water needs. Finding substitutes for food from unsustainable sources, particularly those that can feasibly be adopted by the popular consumer, is a crucial task.

In cooperation with the American Friends of the Hebrew University, HUJI organized a webinar with Prof. Nurit Argov-Argaman (Biomilk), (Robert H. Smith Faculty of Agriculture, Food and Environment) and Prof. Yaakov Nahmias (FutureMeat) (Grass Center of Bioengineering at the Faculty of Natural Sciences). They shared their scientific work which led to the creation of alternative food products that provide sustainable and nutritional alternatives to current energy-consuming foods.

Studies and Learning Initiatives

The Robert H. Smith Faculty of Agriculture, Food and Environment offers B.A. degrees in Biochemistry, Food Sciences, Agricultural Biotechnology, Nutrition, Agroecology, Plant Health, Plant Science in Agriculture, and many more. As such, the faculty is a major contributor to Israel's remarkable achievements in agriculture, and their global impact, through its groundbreaking research and education of generations of students. Hebrew University is the only institute of higher education in Israel that offers academic degrees in agriculture. It is also home to the only schools of Nutritional Sciences and of Veterinary Medicine in Israel.

Prof. Oren Froy, head of Hebrew University's Institute of Biochemistry, Food Science, and Nutrition, cooperated with the Israel 70+ project to create "What's on the Menu? The Future of Food," an engaging, futuristic video discussing the source of our future food, plant-based nutrition, and other burning questions.

Actions on Campus

Faculty members of the Robert H. Smith Faculty of Agriculture, Food and Environment provide an agricultural farm that is free for use by experienced Israeli farmers that come from Ethiopia. The farmers grow produce by traditional Ethiopian methods and participate in a "practical agriculture" course, sharing their knowledge and experience in sustainable farming with students through this inspiring scientific and social project. In 2016, Hebrew University Prof. Alon Samach offered plots to eight farmers, and now, in 2022, there are 40 farmers. Each week, after tending to the crops, everyone – from experienced elderly farmers to young students – comes together for an intergenerational workshop combining scientific and social takeaways.

The Student Union on the Rehovot campus collects fresh, perfectly edible food that is about to be discarded and distributes it to people in need.



3 GOOD HEALTH AND WELL-BEING



Scientific Progress

Among the many game-changing research breakthroughs developed at HUJI's Faculty of Medicine is Dr. Shai Sabbah's work on the connections between nerve cells in the retina that are responsible for collecting visual information. Research published by a collaboration between Dr. Sabbah's group and the Danish Research Institute of Translational Neuroscience at Aarhus University sheds light on the direction of selectivity in which retinal bipolar cell axon terminals operate, enabling a more precise way to fundamentally understand our sense of vision.

Another scientific breakthrough is the development of an innovative approach to creating a drug that will fight skin and liver cancer without chemotherapy. As part of a three-year study in collaboration with researchers in Germany and the United States which resulted in a publication in Nature, Prof. Boaz Tirosh and his research student Dr. Mohamed Mahamid (School of Pharmacy's Institute for Drug Research) tested the movement of intracellular proteins in cancer under various drug combinations. The researchers found a unique drug combination that proved effective against liver cancer and skin cancer in preliminary research and is now to be tested in clinical trials. This new strategy for cancer therapy may in turn lead to a significant shift in the approach to the study of these cancers.

Community Impact

Roughly a quarter of cases of childhood blindness in sub-Saharan Africa result from cataracts, a treatable condition. Cataract-afflicted children typically remain blind due to lack of diagnosis and medical care, and all too often die before reaching adulthood. Prof. Ehud Zohary (HUJI Edmond & Lily Safra Center for Brain Science) heads Project Eye Opener, established to improve these children's fate in a dramatic way. It combines surgical treatment with rigorous scientific evaluation and follow-up therapy to optimize chances for sight recovery. To date, 53 children have been treated at Hawassa hospital in Ethiopia, and are tested regularly to assess their visual development.

The Israel National Program for Quality Indicators in Community Healthcare is led by a directorate from the HUJI-Hadassah Braun School of Public Health and Community Medicine, headed by Prof. Ronit Calderon-Margalit. The purpose of the program is to maintain continuous, dynamic measures of healthcare quality that include preventive services, screening, treatment, and disease management. The information is used by the public and by policymakers in order to assess the quality of healthcare. The program's goal is to improve

healthcare services provided to the residents of Israel.

Studies and Learning Initiatives

The International Master's in Public Health is a 12-month master's degree program at HUJI's Hadassah Braun School of Public Health and Community Medicine, designed to train international healthcare professionals on the front lines of their countries' healthcare systems. Program participants acquire tools for analyzing public health challenges and for designing intervention strategies at the community and national levels. The curriculum covers a broad range of areas: epidemiology, biostatistics, health administration, health economics, health systems and public health practice, planning, administration and evaluation, and others. A major component of the program is the Community-Oriented Primary Care Workshop, based on a holistic approach to healthcare delivery that integrates clinical medicine and public health.

In cooperation with Hadassah Medical Center, the student clinic of HUJI's Faculty of Medicine is an initiative with the aim of providing medical services to underprivileged communities in and around Jerusalem who do not have health insurance or access to medical services. The clinic provides access to primary care for street dwellers and refugees, and promotes early diagnosis and treatment of children with developmental delays in East Jerusalem. The clinic believes in every individual's basic right to receive medical services, regardless of his/her status.

Actions on Campus

HUJI offers psychological services for students suffering from stress, anxiety, depression, or any other condition requiring professional help. This service can also provide help coping with difficulties in interpersonal or marital relationships, offering a variety of treatments including targeted crisis treatments, long-term or short-term dynamic, and psychiatric treatments that are tailored to the needs of the applicant. Free initial counseling sessions are offered, and additional services are subsidized. In addition, there is a support program for students coping with mental disorders, providing up to four weekly hours of support.

The Faculty of Dentistry offers dental treatments at a reduced cost, funded by donations recruited by dental students and faculty members. The treatments are offered to the elderly and to children living in poverty, residents of sheltered housing, and Holocaust survivors.



4 QUALITY EDUCATION



מרכז האוניברסיטה העברית לקיימות
The Hebrew University Center for Sustainability
مركز الجامعة العبرية للاستدامة



Scientific Progress

The Seymour Fox School of Education at HUJI hosts numerous research groups and provides top-level teacher-training courses. Prof. Christa Asterhan studies the social and cognitive aspects of learning through human interaction, combining experimental and descriptive research methods. During COVID 19, Prof. Asterhan studied the effects of online teaching and learning on a range of aspects: student and teacher wellbeing, student motivation and engagement, teaching proficiency and academic verbal dialogue. This study resulted in important scientific publications about middle-school teacher burnout and online classroom discussion practices.

Dr. Alik Palatnik (Seymour Fox School of Education) studies mathematics education, including inquiry-based instruction, project-based learning, problem solving and technology-based mathematics instruction. Dr. Palatnik's latest studies centered on the evolution of teachers' knowledge when transitioning to student-centered pedagogy, and didactic situations in project-based learning. Prof. Julia Resnik (School and Secretary of the Comparative Israeli Education Society) studies globalization of education policies, comparative education, multiculturalism, migrant children, and international education. Prof. Resnik has embarked on an Israeli study on global citizenship education as part of a large international project supported by UNESCO.

Community Impact

In Issawiya, a Palestinian neighborhood in East Jerusalem, 800 students lack classrooms and basic educational facilities, and do not have access to higher education. The "Good Neighborhood" group of the Jack, Joseph and Morton Mandel School for Advanced Studies fosters the relationship between the Mt. Scopus campus and Issawiya village located nearby. Students and researchers from HUJI assist students from Issawiya with Hebrew and English homework, hold workshops, and share campus life and educational resources with them.

The Teacher-Researcher program acts as a meeting point between the University and the education system in Jerusalem. Members of the program have PhDs in science and engage in active research at the University while teaching high school students in the sciences. The program was initiated by Professors Nathalie Balaban and Eran Sharon (Racah Institute of Physics) and provides a partial solution to the shortage of science teachers. HUJI's Program for Free Listeners invites the general public to study and take part in a wide variety of courses at the Hebrew University, providing access to university lectures, the

Moodle" online system, and libraries. HUJI also participates in "Access for All", a program for adults referred by welfare and education authorities that enables them to acquire essential and practical education in an academic environment.

Studies and Learning Initiatives

The Faculty of Humanities offers the Revivim program, an accelerated four-year program in which students earn BA and MA degrees in Jewish Studies and a teaching certification. The curriculum combines in-depth academic studies with intensive practical experience. Revivim students engage in extensive supervised field work, gaining an unprecedented 300 hours of classroom experience and achieving a maximal level of professionalism before graduation. The program trains teachers of high caliber, with the aim of high quality of education and long-lasting public interest in the humanities.

HUJI's Youth Division believes that academic study should be equally accessible to all children, teens, and young adults. The division offers formal and informal programs, lectures, and camps that foster critical analysis, creative thinking, and problem-solving skills, in an environment that promotes cultural diversity and inclusivity. The Belmonte Science Laboratories Center and the Joseph Meyerhoff Youth Center for Advanced Studies run a range of programs, offering equal opportunities for children from the periphery, minority groups, and poor socioeconomic backgrounds.

Actions on Campus

To ensure the University is welcoming to all, HUJI created the "Firsts for the Academy" program, providing a unique aid package for motivated, first-generation students. All students in the program are awarded a scholarship throughout their entire degree. The program also offers students the opportunity to team up with social and academic tutors and faculty mentors.

The Learning Disabilities and Attention Deficit Disorder Unit in the Dean for Students Office provides services of evaluation, consultation, and support for students with learning disabilities and ADD during their academic studies. HUJI's Learning Center for the Blind assists students with visual impairment, and provides services and preparatory courses for approximately 150 students across the University.



Scientific Progress

HUJI's Lafer Center for Women's and Gender Studies at the Faculty of Social Sciences coordinates programs and research on gender and women's studies. Hadas Gur-Ze'ev, a Lafer Center Doctoral Fellow, wrote her dissertation on "The Gendered Culture War: Feminist Trends and Countertrends in Online Discussions of Popular Culture," focusing on the clash between feminism and misogyny on digital platforms, and the way they are used in public discussions. Ayisha Agbaria, also a Lafer Center Doctoral Fellow, wrote her thesis on building, breaking, and restructuring social ties, and their crucial part in identity formation and social networks during religious identity re-formation amongst young Muslim women. Ayisha's research explores how Muslim women in Israel manage social ties while forming individual religious identities within their complex reality.

The Sophie Davis Forum for the Study of Gender, Conflicts and Their Resolution operates within the Leonard Davis Institute for International Relations, also at the Faculty of Social Sciences. The forum works to integrate gender thinking into conflict research and international relations studies, and to promote collaborations with civil society organizations dealing in related fields. The Forum of Female Researchers established at the Truman Institute organizes different events and activities such as meetings with innovative women in academia, as well as practical workshops with varied lecturers.

Community Impact

The Clinical Legal Education Center at the Faculty of Law features a clinic for women and the economy, examining questions of gender division for paid and unpaid work, diverse occupational barriers, the positioning and discrimination of women in the labor market, their relegation to "feminine" professions that are under-rewarded, the design of gender-sensitive economic policies, and the ways in which national economic programs affect the lives of women. The clinic serves as a platform for practical work and critical thinking about key issues in economic and social policy from a gender perspective. Alongside these activities, the clinic assists individual women from the socio-economic margins of Israeli society.

HUJI's Taking the Stage project aims to close significant representation gaps between women and men in public and academic discourse by ensuring adequate representation of academic women as spokespeople in public discussions.

Studies and Learning Initiatives

The Lafer Center for Women's and Gender Studies also offers a Master's Degree in Gender and Diversity covering issues in psychology, gender and group identities, and challenges of multiculturalism, gender, sexuality, and psychoanalysis. Also addressed are feminist theories and feminist-critical research methods, leadership, creativity and communication skills in heterogeneous environments, dialogue, recognition and power relations, masculinity and femininity through the lens of queer theories.

Cooperation between HUJI's Social Engagement Unit and the Lisan Association led to the creation of the Medabrot Ivrit project, providing a focused and optimal response to challenges faced by female students as Arabic-speaking residents of East Jerusalem by providing Hebrew lessons. So far, over 2000 students have participated in this free course, with volunteer students doing the teaching.

HUJI offers over 35 different scholarship programs for female students. One of them, the "Women's Circles" program, in cooperation with municipal and community bodies in West and East Jerusalem, offers a scholarship aiming to raise awareness of female and gender issues among female students and other women from Jerusalem, and to encourage mutual social involvement. The students experience interpersonal, empathetic and critical discourse on feminine, gender, and social issues. In addition, they discuss the differences and commonalities of women, and examine the connection between the personal, the feminine, the social, and the political.

Actions on Campus

HUJI's Committee for Gender Fairness, chaired by Prof. Haya Lorberbaum-Galski, is comprised of faculty members from all academic units, working together to promote and implement gender fairness. The committee promotes female researchers in the academic track, holds workshops on unconscious biases, and empowers doctoral students to pursue an academic career. Wiser, a mentorship initiative for Israeli women postdocs, provides informal support and guidance during the postdoctoral career.

HUJI decided to adopt International Women's Day in Science as an annual tradition for celebrating and honoring the contribution of female researchers to science, in the hopes of accelerating gender equality in academia. Prof. Haya Lorberbaum-Galsky, HUJI's adviser to the President for gender fairness, has called on the Minister of Science and on academic institutions to embrace this day.



Scientific Progress

Conventional wastewater treatment systems remove many, though not all, pollutants, leaving remnants of these substances in the environment. Biological monitoring methods are of great importance in detecting these substances and assessing their risk. The group of Prof. Shimshon Belkin (Department of Plant and Environmental Sciences at the Institute of Life Sciences) in cooperation with researchers from the Federal Institute of Hydrology in Germany, developed and recently published a method for detecting wastewater pollutants. The method consists of a series of cellular sensors for detecting two groups of environmental pollutants - substances that disrupt hormonal activity and those that damage the genetic material of the cell.

Prof. Ovadia Lev (Casali Center of Applied Chemistry) studies water and wastewater treatment, development of advanced materials for environmental and green chemistry, and the analytical chemistry and electrochemistry of trace organic contaminants. Prof. Lev has been instrumental in providing science-based regulations, tools for quantification of leakage from soil aquifer treatment systems to nearby drinking water wells, and quantification of wastewater leakage to water sources by quantification of emerging organic contaminants.

Community Impact

The Kidron river, which starts in Jerusalem and reaches the Dead Sea, crosses borders between Israel and Palestine and has been the biggest wastewater hazard in the area for decades. Thanks to cooperation between Palestinians and Israelis, led by Prof. Richard Laster (Faculty of Law) the Kidron Master Plan was created, promising to turn the valley from a water-scarce area to one with a supply of water for irrigation throughout the year, providing hope for future peace cooperation projects. This year, filtration system facilities were created through cooperation of authorities, experts and NGOs.

Prof. Efrat Morin (Fredy and Nadine Herrmann Institute of Earth Sciences) studies rainfall-runoff analysis, drought analysis, hydrological processes and models, and climate change impacts on different environmental systems. Prof. Morin is active on a number of national and international committees on the topic of hydrometeorology and regularly gives public talks on changes in regional precipitation regimes.

Studies and Learning Initiatives

As a result of the intensive exploitation of Israel's land and water sources, there have been serious environmental problems related to the contamination of soil, surface water, and groundwater. These and further problems are studied in the graduate degree programs in the Department of Soil and Water Sciences at the Robert H. Smith Faculty of Agriculture, Food and Environment. Tackling these problems requires in-depth study and special attention to all aspects related to the sustainable utilization of natural resources, including examining the possibilities of recycling waste originating from agriculture, the industrial sector, and urban settlement.

Hydrology and Water Resources is a joint program for the Faculties of Natural Sciences, Food Agriculture and Environment and Social Sciences. The courses provide students with tools for understanding processes related to the movement of water above and below ground surface, understanding water resources in Israel, and learning about irrigation and its environmental consequences.

The Social Involvement Unit at the Office of the Dean of Students bestowed an award of excellence for voluntary contribution to the community to Itai Katz, a third-year graduate student in International Relations, Geography, Environment, and Geoinformatics. Itai received the award for his volunteer-work with the organization "Ecopeace Middle-East," which brings together Jordanian, Palestinian, and Israeli environmental activists with the aim of developing cooperation in the fields of nature conservation. Emphasis is placed on water sources in the region, stemming from the realization that the water crisis in the Middle East knows no political borders.

Actions on Campus

To prevent water wastage, 400 economical showerheads were installed in student dormitory showers. The flow rate of the new head is 8.8 liters/minute and is much more economical than the old head, which released 23 liters of water/minute. At the same time, new ventilator heads were installed to maintain high pressure. In addition to saving water, changing the shower heads also saves on the amount of electricity needed to heat the water.

Throughout all HUJI campuses, smart irrigation is being used in order to minimize water consumption. Wherever possible, plants are strategically planted to create an environment requiring less irrigation.



7 AFFORDABLE AND CLEAN ENERGY



מרכז האוניברסיטה העברית לקיימות
The Hebrew University Center for Sustainability
مركز الجامعة العبرية للاستدامة



Scientific Progress

A transition to a sustainable, efficient and affordable energy supply is a necessary initial step for adapting to climate change. Prof. Lioz Etgar (Institute of Chemistry) and Prof. Amir Sa'ar (The Racah Institute of Physics) are collaborating in a research project with the aim of developing unique photovoltaic solar cells that apply hybrid concepts from different photovoltaic technologies. Their research focuses on developing innovative semiconductor nanostructures and molecular materials for the production of solar cells.

Understanding and addressing the geopolitics of renewable energy adoption in different regions is necessary to ensure that these technologies do not cause conflict. Prof. Itay Fischhendler from the Department of Geography and Prof. Ayal Kimhi (Robert H. Smith Faculty of Agriculture, Food and Environment) are collaborating on a project that aims to defuse the tension between solar farms and agricultural land use. This project stems from the conflict between the increase in use of utility-scale solar energy and agricultural land use. The Leonard Davis Institute for International Relations holds a Geopolitics and Energy Research Group led by Dr. Lior Herman, whose mission is to promote research on the interrelations between energy and geopolitics and collaborate in international research and public initiatives.

Community Impact

Innovation in the energy sector is necessary for transitioning to affordable and renewable energy. Faculty members at HUJI's Institute of Chemistry opened a number of renewable energy companies. Hydro X, a spinoff company stemming from the research of Prof. Yoel Sasson (Casali Center of Applied Chemistry) has developed green hydrogen energy storage technology which enables storing and transporting hydrogen in a safe, cost-effective way. SOLRA, a company based on research by Prof. Lioz Etgar of the Institute of Chemistry, has developed printable semi-transparent solar cells that can be used as solar windows, enabling scalability, ease of production, and recyclability.

Prof. Shlomo Magdassi and Prof. Daniel Mandler (Institute of Chemistry) developed solar coatings that harvest solar energy and convert it into heat and electricity. These coatings are used in California, providing electricity for over 100,000 homes.

Studies and Learning Initiatives

The Advanced School for Environmental Studies offers a range of courses related to clean and renewable energies. In 2021 a unique, three-day academic tour was held following the wind turbines in the Golan, as part of the multidisciplinary course "Interprofessional Workshop on Environmental Problems," held under the guidance of Prof. Itay Fischhendler (Department of Geography) and attorney Eran Ettinger. The workshop dealt with the tensions between ecology and clean energy.

Prof. Einat Aharonov and Prof. Carynelisa Haspel (Institute of Earth Sciences) teach a course on "Energy and the Environment," focusing on the physical and chemical processes associated with fossil fuel and renewable/alternative energy sources, and the influence of energy use on the environment, health, and the Earth's climate. Prof. Aharonov specializes in oil and gas formation and extraction. She is active in a volunteer-based organization called 'Homeland Guards,' which strives to meet Israel's greenhouse gas emissions reduction targets. In addition, it ensures that national investments and decisions are made, while being aware that natural gas is as harmful as coal given its high level of methane emissions, and demanding a shift to renewable energies. Dr. Lior Herman of the Department of International Relations gave a talk in The Sophie Davis Forum on "Gender, Conflict Resolution and Peace," regarding the transition to renewable energies and geopolitical security.

Actions on Campus

HUJI operates the "Green Campus" initiative, in which administrative and academic staff work together with students to promote awareness of sustainability and environment preservation within HUJI's campuses. The initiative, led by Prof. Nadav Katz (Racah Institute of Physics) works to promote projects of energy efficiency, energy monitoring and transitioning towards renewable energies, and other initiatives, in cooperation with various bodies within the university.

As part of their work, the initiative supported the 5.5 million NIS investment of HUJI for the on-campus installation of solar panels with a capacity of 1.2 Megawatts. At its peak, this renewable source of energy accounts for 12% of the campus's energy consumption, generating electricity from solar energy. Two new buildings at the university were built to the LEED-SILVER standard (the highest American standard for green construction). This standard of building ensures the maximal energy efficiency of lighting, heating, ventilation, and air conditioning.



8 DECENT WORK AND ECONOMIC GROWTH



Scientific Progress

Professors Yitzhak Hadar and Oded Yarden (Robert H. Smith Faculty of Agriculture, Food & Environment) joined a multidisciplinary team of over 40 researchers from European universities and industry, striving to assemble a white paper on growing a circular economy with fungal biotechnology. The paper describes how fungal biotechnology can advance the transition from our petroleum-based economy into a bio-based circular economy, and sustainable production of resilient sources of food, materials, chemicals, fuels, textiles, and many more useful products.

A different perspective on circular economy was applied by Prof. Zvi Wiener (Sanger Family Chair in Banking and Risk Management at HUJI's Business School). Prof. Wiener wrote a chapter in the book "Rethinking Sustainability Towards a Regenerative Economy," named "Circular Economy in Construction from Waste to Green Recycled Products in Israel: A Case Study." The chapter argues that the way to achieve the full integration between the circular economy and the legal framework to cope with construction and demolition waste through recycling still involves a wide gap, although big changes and advances have been made toward reaching a comprehensive policy.

Community Impact

About half a million small businesses operate in Israel, and about a tenth of them are located in the Jerusalem area, playing an essential role in creating new jobs and reducing negative immigration from the capital city. Most of them operate in a challenging, demanding and competitive environment, which requires them to adapt to the changing demands of the technology-based labor market. "Digital Starter" is a joint venture of HUJI, the Jerusalem Municipality, Atidim Association, and Google, aimed at helping small businesses to promote themselves in a new digital market. The venture connected 80 students in various fields with approximately 400 small businesses, providing digital support using simple tools, free of charge.

Remote working offers numerous benefits, including lower greenhouse gas emissions, reduced air pollution, improved work-life balance, increased productivity, and better overall employee health. The HUJI Alumni Association organized a remote work exposure evening for young adults, hosting speakers describing remote working environments, practicalities, challenges, and employment options.

Studies and Learning Initiatives

Research students in the Future of Work Lab, headed by Dr. Sharon Arieli (Strategy Department at HUJI's Business School) are studying the skills required for the contemporary world of employment, including creativity, problem-solving, and innovation. The lab's interdisciplinary approach combines theories and methodologies from social psychology, organizational psychology, organizational behavior, and strategy. The lab focuses on how to enhance our understanding of creativity development and innovation at work, and increasing employees' sense of meaning.

The "Person-Work Fit" Master's Degree course, taught by Prof. Lilach Sagiv (Business Administration Department at the Business School) aims to expose students to a central topic in organizational behavior – the congruence between person and work. Each week, a foundational text on the topic is read and then discussed in writing and in class. The course also includes a practical component surrounding the counseling aspect of the topic in question, and self-reflection on professional growth.

The Department of Environmental Economics and Management offers a high-level, flexible and practical teaching program, integrating the disciplines of economics, business administration, and environmental, agricultural and natural resource economics, at the undergraduate, graduate, and doctoral levels.

Actions on Campus

The Dean of Students Office offers a program entitled "Equal Employment - an Accessible Career." The program helps students with disabilities to enter the job market immediately following graduation, and to acquire tools and skills when looking for a student job, internship, or post-graduation job that matches the student's education and skills. In addition, it offers assistance in job search and placement at the beginning of the occupational path, while matching all professions and study degrees. The process includes personal and individual guidance by an expert in business work and in the employment of persons with disabilities.

The HUJI JLM Career Center supports students and graduates in developing and promoting their career and preparing them for the world of employment. The career center offers career development workshops, career fairs, meetings with personal career counselors, employers and special mentoring programs. The center operates an active blog on student thoughts on careers that portrays the real struggles and successes of students and alumni in securing decent jobs.



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Scientific Progress

Prof. Scott Kirkpatrick from (Computer Science and Engineering) and Prof. Sorin Solomon (Institute of Physics) joined an international group of researchers to study challenges in network science and their applications on infrastructures, climate, social systems and economics. Network science is a research field at the intersection of computer science and physics. The researchers showed how new insights from advanced network science can greatly impact infrastructure networks used for transporting goods, energy, and information. These insights can be used for making existing infrastructure systems more efficient and resilient.

Since its inception, the Authority for Research and Development (ARD) is the main administrative department responsible for encouraging, furthering, and facilitating all research activities at HUJI. Among its responsibilities, ARD identifies potential sources of funding for research in Israel and abroad, while also managing the university's research grants. In addition, it implements the research policy of the ARD Executive Committee, and identifies and maximizes research of a potentially commercial and industrial nature.

Community Impact

HUJI's center for innovation and entrepreneurship, in cooperation with the Asper Foundation, celebrates innovative startups that create a positive impact globally through the Asper Prize, a competition awarding the startup winner with ILS 100,000. The prize, initiated in order to nurture an entrepreneurial spirit amongst HUJI students, researchers, and alumni, has adopted the United Nation Sustainable Development Goals (SDGs) as a core theme, where startups are tasked with elaborating which SDG Goals their products address.

The Asper HUJI Creativity Challenge is an annual competition aimed at developing and fostering creative ideas in the field of sustainability. Every year a seemingly useless, old-fashioned object is chosen for which students are asked to build a useful and relevant prototype, while filming their efforts. The winner receives an ILS 5,000 prize from the center. Over the last two years hundreds of students took part, suggesting new uses for plastic bottles, single socks, coffee, and much more.

Studies and Learning Initiatives

The JLM Impact Consortium offers an online course on design-driven innovation, focusing on human needs and product-oriented thinking to harness the power of science, design, and engineering for a positive change, and to foster an innovative and entrepreneurial ecosystem in Jerusalem. The course is open to researchers and students from HUJI, Bezalel Academy of Arts and Design, and the Azrieli College of Engineering.

The Trans-disciplinary Innovation Program is an intensive six-week international entrepreneurship program at the Hebrew University Business School dedicated to students in technology, science, innovation, entrepreneurship, and business. The first four weeks of the course include computer vision, big data, bioengineering, and entrepreneurship, followed by two weeks of dedicated time to develop a start-up idea. All this culminates in a final event where students have the opportunity to pitch ideas to a panel of investors, accelerators and industry leaders.

Actions on Campus

Asper-HUJI Innovate is the University's center for innovation and entrepreneurship, fostering the university's innovation potential to solve substantial problems through entrepreneurship. The center promotes the university as a supportive environment for entrepreneurship, cultivates an entrepreneurial mindset and skills amongst students, researchers and staff, and serves as a catalyst for the development of innovative startups and social enterprises. The centre offers workshops, courses, mentorship programs and other tools needed for turning an idea into a reality.

Yissum is the Tech Transfer Company of HUJI, bridging between trailblazing research and the wider global market. Yissum provides unparalleled experience and passion for the commercialization of technology for global impact. HUJI continues to excel at recruiting great minds and providing a fundamental academic space for curiosity-driven research. Together with the university's outstanding scientists and collaborations with industry leaders, Yissum provides a platform for technology commercialization, corporate engagement, and economic development. In their podcast "Out of the Lab," Yissum takes the listeners on a fascinating journey of breakthrough science, from idea to fruition, with narratives from researchers.

The mentor program at HUJI's Business School connects young graduates and students finishing their degree with alumni of the school who have successfully completed their career journey, and are now executives in industry and the public sector.



Scientific Progress

Land resource distribution and planning policies to a large extent determine the living conditions and scope of opportunities for different populations and communities. Social planning and spatial justice are based on and adapted to the social, cultural, economic and environmental needs of the population, in the aim of reducing spatial inequalities. Dr. Enaya Banna-Jeries is an urban planner and research fellow (Institute of Urban and Regional Studies at the Faculty of Social Sciences) deals with theories of justice and their application in decision-making procedures in planning institutions related to Arab-Palestinian citizens of Israel and the residents of East Jerusalem. She specializes in issues of urban planning and the rights of members of Palestinian Arab society as a national minority born in Israel.

Dr. Emily Silverman (Department of Geography) specializes in housing policy, social planning, urban renewal, and planning within the community. Dr. Silverman's research, characterized by an emphasis on applied aspects and promoting values of fairness and equality, is carried out in collaboration with decision-makers and community representatives. Moreover, it influences the formulation of Israel's social housing policy.

Community Impact

The Active University in Jerusalem project is HUJI's flagship social project, in which the university and its students are committed to helping at-risk youth and running various programs which support and empower them. The aim of the project is to expose these youths to higher education and the cultural and emotional worlds of students, to develop their talents and self-esteem, and to give them hope for a brighter future and the opportunity for social mobility.

The project runs five programs, among them "Winning Card," a series of academic enrichment courses held on campus for first generation youth. The programs are intended for teenagers who are interested in enriching themselves in the fields of psychology, business administration, law, or medicine. The youth choose a course at Hebrew University, taught throughout the academic year by carefully selected students of upper standing, who receive a scholarship for their contribution.

Studies and Learning Initiatives

Every year, HUJI offers six pre-academic preparatory programs for more than 1,000 students. The programs cater to Arab students from East Jerusalem, immigrants, ultra-orthodox students, nursing students from disadvantaged socio-economic backgrounds, students without a high school matriculation and a general preparatory program. The university invests over ILS 7,000,000 annually in these preparatory programs, in recognition of the crucial importance of providing an opportunity for people from all parts of society to study at the university, with many of them fully subsidized.

"Rishonim Lekidum" is a national program adopted and implemented by HUJI as its policy, and designed to promote equal opportunity. For example, the university offers admission to studies in all of its faculties to candidates with a background of personal, environmental, and family difficulties during adolescence that prevented them from attaining high school diplomas.

Action on Campus

The Diversity and Inclusion Unit of Hebrew University, led by HUJI's Vice President for Strategy and Diversity Prof. Mona Khoury-Kassabri, strives to maintain an academic environment free from discrimination and harassment based on community, national, sectarian, religious, or sexual affiliation of students and faculty members. The unit works to increase the number and proportion of students and faculty members who belong to minority groups in society, mainly ultra-Orthodox, Arabs, Israelis from the Ethiopian community, and people from disadvantaged socio-economic backgrounds.

The Equal Opportunities Unit, housed within the Office for the Dean of Students, runs an academic guidance program for fostering academic excellence among students who are struggling to maximize their academic and personal potential due to financial, personal, educational, and/or social and mental health difficulties. Support is offered through individual or group tutoring by students who have already passed the relevant courses with excellent grades. Additional lessons are provided for specific courses, as well as individualized English instruction. The financial aid unit of the Office for the Dean of Students, as well as other university units, provide need-based scholarships for students with the premise that financial need should never prevent qualified students from earning a degree. The Office for the Dean of Students also works to minimize student drop-out rates, specifically those from underrepresented communities.



Scientific Progress

Jerusalem is a segmented city comprised of different 'cities' associated with specific religions and streams, which overlap spatially to a degree. Prof. Galit Cohen Blankshtain's (head of the Federmann School of Public Policy and Governance and a faculty member at the Geography Department) research areas include transportation policy, participation patterns in policy process, and environmental public engagement. Together with Prof. Eran Feitelson from the Department of Geography, Prof. Blankshtain published a paper on public transport planning in a spatially segmented city, focusing on Jerusalem as a case study.

Smart Urban Trees: Monitoring and improving tree and root performance on city streets is a project led by Prof. José Grünzweig and Dr. Nimrod Schwartz (Faculty of Agriculture, Food and Environment). The project, funded by the Center for Sustainability, aims to develop a digital application for mapping and monitoring urban trees and their root systems, with the goal of supporting healthy tree growth in cities. The study will focus on how the success of urban tree growth correlates with below-surface conditions. It will examine relationships between physical and chemical properties of the soil pit and the functioning of the root system, often the first to be damaged.

The new City Innovation Center led by Prof. Noam Shoval (Department of Geography) is trying to answer big questions on urban issues using data processing and advanced technological capabilities, creating collaborations with public and private sectors. The center promotes research and development on issues of transportation, climate, public policy, security in the public sphere, tourism, and more.

Community Impact

"Meorav Yerushalmi" is a citizen science project developed by HUJI's Center for Sustainability and the Bloomfield Science Museum with the aim of addressing the climate crisis in Jerusalem's urban environment. The project, partnering academia, community, government and the private sector, aims to encourage academic-civilian involvement in monitoring reliable environmental data at high resolutions and designing data-based, change-generating solutions within the action plans of decision-makers. The project uses mobile sensor kits combined with cellphones and software for data collection, analysis, presentation, and mapping to yield operative recommendations. It places emphasis on implementing shading and cooling solutions for urban space, reducing the urban heat island effect, encouraging walkability, reducing air pollution, and reducing greenhouse gas emissions.

The Urban Clinic at the Department of Geography strives to nurture urban leadership and local knowledge for just and inclusive cities. Home to the creation of local knowledge about spatial justice and the growth of professional and civic cooperation, the clinic includes researchers, city professionals, and social activists, and offers courses, tours, publications, and various projects. Among other topics, the clinic, centered in Jerusalem, focuses on placemaking, community planning, and urban renewal.

Studies and Learning Initiatives

HUJI's Institute of Urban and Regional Studies, together with the Department of Geography, offers a leading graduate program in Urban Planning, providing a comprehensive curriculum in the theory, practice, and methods of urban planning. The program aims to train committed and proficient planning professionals, and equip them with a broad knowledge of planning theories and techniques that will serve them in their work in urban planning and policy research. The graduate program balances objectives of sustainable and equitable patterns of development with local economic growth.

Smart Cities and Urban Informatics is a unique, 1-year international MA designed to equip a new generation of urbanists (planners, analysts, and policy makers) with the optimal toolbox for addressing the development of the Smart City. This includes hands-on analytical skills and critical tools for tackling current and anticipated future challenges posed by Smart Cities. Dr. Orit Gazit of the Department of International Relations teaches a course on "Community Building - An infrastructure for development," which explores the sociological, cultural, and political meanings of community and community building.

Action on Campus

Among other benefits, electric public transportation reduces air pollution, improves road congestion, and provides an equitable transportation system. The main electric public transportation system operating in Jerusalem is the Light Rail, with a current length of 14 km and plans for expansion to over 70 km. HUJI is involved in these plans, to the extent that all three campuses in Jerusalem are slated to be connected to the Light Rail lines (Mount Scopus, Givat Ram, and Ein Kerem).



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Scientific Progress

Prof. Amir Heiman (Department of Environmental Economics and Management at the Faculty of Agriculture, Food and Environment) recently published a paper titled "From the laboratory to the consumer: Innovation, supply chain, and adoption with applications to natural resources." The paper analyzes the transition from innovative ideas to final marketed products through two synergetic supply chains for innovation and products. The researchers present the need for more attention to supply-chain design and function that will improve efforts to mitigate climate change and address food security and health challenges.

The research of Dr. Katia Assaf-Zakharov (Faculty of Law) critically analyzes consumer culture, brand fetishism, and capitalist ideology in her paper "Buying Goods and Doing Good: Trademarks and Social Competition." In contemporary Western societies, material possessions serve as one of the most important determinants of personal status. This social reality results in consumption being a significant locus for social competition. Using trademark law, Dr. Assaf-Zakharov proposes encouraging "competitive altruism"—competition over good deeds that can yield benefits for its participants as well as society at large, as a partial replacement for competition over wasteful consumption.

Community Impact

The main structural material for the skeleton of buildings in Israel is concrete, bearing a colossal carbon footprint. A groundbreaking development led by Prof. Daniel Mandler (Institute of Chemistry) provides a creative solution to the problem of excess salt from dead-sea factories, and transforms salt from being a by-product with a negative value into building blocks, bearing positive economic value. The salt bricks are engineered to allow stable and sustainable construction, being moisture resistant, up to ten times stronger than concrete blocks of the same size, and fully recyclable by shredding and reshaping.

There is unequivocal consensus among researchers that reducing meat and dairy consumption will have positive effects on greenhouse gas emissions and human health. Prof. Ram Reifen (Faculty of Agriculture, Food and Environment) at The Hebrew University of Jerusalem has founded ChickP, a protein powder made from chickpeas. As a pure protein, ChickP offers a protein fortification solution and can be used in meat and dairy food alternatives, with minimal effect on taste and texture.

Studies and Learning Initiatives

Many scholars, policymakers, and practitioners have conceptualized notions of prosperity as alternatives to conventional consumer-led economic growth. "Sustainable Consumption" is a Master's Degree course at the Department of Geography taught by Prof. Maurie Cohen. The course aims to introduce students to the political and scientific origins of sustainable consumption, to recognize the obstacles and challenges of sustainable consumption in high-income and low-income countries, as well as to apprehend both the potentials and limitations of technological innovation as a pathway toward more sustainable consumption.

Students from the Robert H. Smith Faculty of Agriculture, Food and Environment are engaged in a number of volunteering activities for communities in need. As part of this initiative, students collect donated clothing and food and distribute them to those in need. In addition, during holidays, they distribute donations of festive food. In this way, they help those in need while mitigating food and clothing waste.

Actions on Campus

As part of the university's Green Campus Initiative, sustainable consumption practices are being promoted and prioritized. HUJI has decided to eliminate the use of disposable cups throughout campus. The decision was made following research which revealed that over 3.5 million disposable cups and hundreds of thousands of other disposable items were used across the university in previous years. Coffee shops on campus incentivize students to bring their own cups by offering discounts for choosing sustainable options. In addition, to promote reusable packaging and offer convenient solutions, the university is installing basins and dishwashers.

HUJI organized a professional tour for deputy deans and members of the Green Council to the site of the "Granit" plant, which collects, separates, and treats waste from the Jerusalem area. The tour, triggered by the significant decrease in recycling facilities on campuses and in Jerusalem, aimed to promote a better understanding of the challenges of waste separation and treatment, and provided insights into how crucial it is to invest in better management for preventing waste burning and burial. As a result of the tour, the university is expanding its range of recycling facilities on all campuses.



13 CLIMATE ACTION



מרכז האוניברסיטה העברית לקיימות
The Hebrew University Center for Sustainability
مركز الجامعة العبرية للاستدامة



Scientific Progress

Although the climate crisis is the most concerning global issue of our times, adaptation and mitigation methods have not yet been sufficiently translated into action at the local and community levels. Doctors Itay Greenspan and Orna Shemer (Paul Baerwald School of Social Work and Social Welfare) in cooperation with Dr. Galit Cohen-Blankshtain (Geography Department & Federmann School of Public Policy) are working on a research project that focuses on the challenges of thinking globally while acting locally on the global climate crisis. The project focuses on examining the effectiveness of participatory climate assemblies organized by environmental NGOs in Israel, with the aim of maximizing the effectiveness of such initiatives.

Prof. Daniel Rosenfeld (Herrmann Institute of Earth Sciences and a member of the Center for Climate Science) studies the human impact on cloud composition, precipitation, cloud aerosol interactions, and the implications of those processes on climate variability and change. Prof. Rosenfeld was among the authors of the 6th Intergovernmental Panel on Climate Change (IPCC) report, contributing to the chapter on changes in water circulation, assessing the impact of warming and air pollution on changes in rains, desertification, droughts, and floods.

Community Impact

Impactful and engaging climate change communication is crucial for engaging citizens and organizations in climate action and adaptation. However, in recent years climate change has become a controversial topic that remains an exclusive subject engaging mainly scientists, stakeholders, and politicians. In order to involve and include as many people as possible, HUJI has created “1.5 Degrees,” a climate outreach program of 27 short online episodes that simply explain the science behind global warming. The series was created by researchers from HUJI who, together with national experts, curated 10-minute-long episodes to engage people of all ages beyond the scientific world.

As a follow-up to the international 2021 United Nations Climate Change Conference (COP26) in Glasgow, the Hebrew University, in cooperation with Haaretz, organized the Israel Climate Change Conference in Jerusalem, including a wide range of key speakers. Additionally, HUJI's researchers participated in the Israeli Climate Forum established by the President.

Studies and Learning Initiatives

The Advanced School for Environmental Studies offers six diverse study programs hosting over 150 PhD and Master's students and over 100 courses. This multidisciplinary graduate school aims to “equip the next generation of leading researchers, along with leaders in the business and public sectors, with the tools to bring about an environmentally sustainable reality.” The school provides various funding opportunities for students, including scholarships to promote women in environmental studies.

HUJI acknowledges the importance of environmental and climate change knowledge for all students (not only climate scientists), and has thus created a new program for undergraduate students called ‘Sustainability, Climate, and Society.’ This program, developed by The Center for Sustainability, offers a new minor open to humanities, social sciences, business, and law students. The Center for Sustainability also offers a course on “Citizen science - sustainability and climate action.” The course will be a platform to promote citizen science projects for solution-oriented approaches to addressing sustainability challenges in the real world, and particularly in the implementation of action plans of policy makers in the climate field.

Actions on Campus

The establishment of a new Hebrew University Center for Climate Science (HUCS) is an attempt to address climate change, a challenge HUJI considers the most significant problem the world currently faces. The center, led by Prof. Hezi Gildor and Dr. Uri Adam, is the largest in Israel, made up of 28 researchers from multiple fields, who focus on building an updated climate model specifically for the Mediterranean region, in cooperation with the Israel Meteorological Service. The center aims to provide information and suggestions for decision-makers based on place-based knowledge, as opposed to predictions and knowledge not specific to the Middle East that have been applied for years.

“Thinking Big and Aspiring to Zero” is a competition dedicated to minimizing carbon emissions on campus. The competition invites students to propose initiatives, offering money prizes for the cleverest initiatives, which are then considered and implemented where possible. Increasing the vegan food range, installing monitoring sensors for light and water use, and using plants in a creative way are all initiatives stemming from this competition.



Scientific Progress

Dozens of fish species live in the Sea of Galilee, some of which do not exist anywhere else in the world. In recent years, local fishermen have been complaining about a significant shortage, especially the tilapia fish, whose numbers have been dwindling. In a newly published study, researchers from the Faculty of Agriculture, Food and Environment at Hebrew University were able to build a complete genetic database that will allow the identification and effective monitoring of the condition of the fish species in the Sea of Galilee. The research was conducted under the leadership of Prof. Lior David and Dr. Roni Tadmor-Levi (Department of Animal Sciences) together with Dr. Daniel Golani (National Nature Collections) and the Ministry of Agriculture.

Iron is quantitatively the most important micronutrient mineral for phytoplankton in aquatic ecosystems. As such, the concentrations and availability of iron for phytoplankton can influence ocean chemistry, major nutrients and carbon cycling, particulate matter transport, and gas exchange with the atmosphere. Prof. Yeala Shaked, an aquatic biogeochemist (Institute of Earth Sciences) studies iron nutrition of marine phytoplankton. These tiny but abundant microorganisms drive ocean-wide cycling of trace and major elements and, in turn, influence the atmosphere composition and our climate.

Community Impact

The podcast "Kayamut B'Ivrit" organized by the Center for Sustainability, is part of an effort to promote sustainability at HUJI. The first episode hosted Prof. Maoz (Alexander Silberman Institute of Life Science), who spoke clearly to the general public about coral reefs in the Gulf of Eilat, the risks that threaten them, and the chances of preserving the Gulf. Apart from their beauty, Prof. Fine explained the economic benefits of the coral reefs, their scientific value, and how coral reefs are likely to evolve in the near future under environmental and climate change.

Prof. Berta Levavi-Sivan (Department of Animal Sciences in the Faculty of Agriculture, Food and Environment) focuses on fish reproduction and fish growth, and is the founder of Aquinovo. One of the challenges to aquaculture is that reproduction, as an energy-intensive endeavor, makes fish grow more slowly. Prof. Levavi-Sivan, a specialist in aquaculture, developed molecules that neutralize the effect of molecules inhibiting fish reproduction and increasing growth rates, while the same quantity of feed is thereby converted into greater biomass.

The Interuniversity Institute for Marine Sciences in Eilat (IUI) evolved from the H. Steinitz Marine Biology Laboratory (MBL), established by the Hebrew University in 1968. Currently IUI is a national facility, shared by all universities in the country with many researchers and teaching staff from HUJI. The IUI focuses on providing a series of undergraduate and graduate courses carried out intensively during one- to two-week periods. The curriculum reflects all marine disciplines and is based on about 20 courses, including Environmental Processes in the Gulf of Aqaba, Topics in Fish Biology, and many more. One such course is "Marine Photosynthesis." About half of the world's photosynthetic production takes place in oceans. Despite this fact, very few of the mechanisms involved in marine photosynthesis and the environmental conditions that drive these processes, are presently taught at universities in Israel. The course aims to advance the understanding of marine photosynthesis through lectures, demonstrations, and laboratory work, as well as field measurements of photosynthetic rates and group projects.

Actions on Campus

Due to an oil spill in the Mediterranean, pollution was created that damaged the coastal environment and the living tissue all along the coast of Israel. Employees (administrative and academic) and students from HUJI decided to help with the cleaning, and a day-long bus run transported them to a segment of the beach north of Ashdod port to be cleaned. The university management subsidized the working days of administrative staff, transportation, catering, and protective equipment.

The Neev Center for Geoinformatics was established by Dr. John K. Hall, Prof. Yigal Erel, and Prof. Amotz Agnon (Institute of Earth Sciences) to address a variety of questions using geophysical and geological instruments. One of the team's projects involves high-resolution mapping of all of Israel's marine areas. Seafloor maps increase the scope, efficiency, and pace of deep-ocean exploration, saving both time and money while increasing chances for significant discoveries.



Scientific Progress

Dr. Yael Mandelik, an ecologist and conservation biologist is working on the interaction between biodiversity, ecosystem functions, and land-use change, (Department of Entomology at the Robert H. Smith Faculty of Agriculture, Food and Environment). Her research focuses on insect pollinators and pollination as a central ecosystem service, and explores questions related to pollination services to crops and wild plants, anthropogenic-induced changes in pollinator communities, pollinator health, and pollinator conservation. Through her research, Dr. Mandelik seeks to restore communities of these beneficial insects in agricultural, afforested, and natural landscapes, and to contribute to sustainable agriculture production and biodiversity conservation.

In the same faculty, at the Department of Environmental Economics and Management, Prof. Iddo Kan studies the economic analysis of agricultural land use, and investigates irrigation and drainage management, solid-waste management, assessment of climate-change impacts, rural landscape preservation, evaluation of externalities, and water pricing in political decision-making systems. Prof. Kan's expertise focuses on integrating natural processes into economic analyses in order to characterize management strategies and policies of agricultural land use.

Community Impact

The Koret School of Veterinary Medicine is an academic teaching and research center operating within the Faculty of Agriculture of Hebrew University and is the only academic institution in Israel that grants academic degrees in animal medicine. Other than treating over 20,000 veterinary cases per year, the hospital operates a program in cooperation with several local authorities and social organizations for the treatment of abandoned pets in need of medical treatment at a reduced cost. Prof. Amir Steinman, the director of the hospital, researches antibiotics resistance in animals, equine diseases and medicine, and multidrug resistant bacteria.

In June 2020, the Soil and Water Sciences Department at the Robert H. Smith Faculty of Agriculture, Food and Environment commemorated the "World Day to Combat Desertification and Drought." To mark this day, all researchers and students were invited to take part in an online mini-symposium. The goal of the mini-symposium is to acquaint the public and research community with the large variety of research related to desertification, discussing

soil degradation, drought and water scarcity, effects of climate change on land, and effects of desertification on biodiversity and on human populations.

Studies and Learning Initiatives

The Alexander Silberman Institute of Life Science offers a master's degree at the Department of Plant Sciences, focusing on the topics of biochemical and physiological issues unique to plants. The curriculum includes courses on how plants regulate nutrient resources under stress conditions and during development, how plants break down complex substances in the cell when they need to produce available energy, identification of genes related to the biological clock mechanism in plants, and the molecular mechanism for plant resistance to environmental stresses.

The Department of Entomology offers courses about insects that exert an economic or health burden on human activities and societies, as opposed to beneficial insects that provide vital ecological services. The department applies a multidisciplinary biological approach with the ultimate goal of enhancing agricultural production and protecting human and livestock health, while conserving the diversity and robustness of the environment for generations to come.

Actions on Campus

HUJI's biological and paleontological collections contain a unique diverse collection of flora and fauna of the Middle East and its adjacent seas, assembled over a period lasting more than one hundred years. As part of the National Natural History Collections, these collections serve as a safe repository and reliable baseline for the biota of Israel in the wake of unprecedented global environment changes that impact the Mediterranean Basin. Due to the geographic position of Israel at the meeting point of several biogeographic and climatic regions, its biodiversity has the potential of serving as a sensitive indicator for large-scale regional and global changes.

The University Botanical Garden in Givat Ram is a center for education, training and research, and the largest botanical garden in Israel, with the largest collection of living plants in Israel and the Middle East. The aim of the botanical garden is to inspire and instill ways of carrying out and maintaining informed conservation of the variety of plants in their environmental context, as a basis for our physical, ethical, and cultural existence. The garden attracts diverse audiences for educational, scientific, cultural, and recreational activities combined with core botanical, horticultural, agricultural, and ecological studies.



16 PEACE, JUSTICE AND STRONG INSTITUTIONS



Scientific Progress

The Harry S. Truman Research Institute for The Advancement of Peace is the largest research institute in Israel and the Middle East studying the advancement of peace. The Institute has 70 research fellows focusing on the Israeli-Palestinian conflict and on other countries in the Middle East, as well as Asia, Africa, and Latin America. The research in the Institute is highly interdisciplinary, adapting historical, cultural, psychological, political and socio-economic approaches, and is used as reference both in Israel and around the world for the study of the advancement of peace. The Institute promotes collaboration with scholars from the Palestinian Authority and Middle Eastern countries.

Prof. Yifat Maoz (Noah Mozes Department of Communication and Journalism) studies polarization, blame, dialogue, and hatred in conflicts, specifically between Israeli Jews and Palestinians. She also studies the interaction between digital platforms and psychological aspects of the Israeli-Palestinian conflict.

Community Impact

The Truman Institute, in collaboration with the School of Social Work and Social Welfare and the Jerusalem Municipality, established a project for enhancing the communal and social status of Arab communities in the city. The first stage of the project focuses on providing intensive community work in Sur Baher, an Arab village in Jerusalem, by a strong nucleus of HUJI Arabic-speaking social work students and their advisors. By supporting residents who struggle with dropping out of school, family dysfunction, early marriages, and violence within the family, the purpose of the project is to promote residents' welfare and education, empowering and uniting the community.

The Inter-Religious Beit Midrash program invites Jewish, Muslim and Christian Arab students to meet and study passages from the Bible, the Quran and the New Testament, discussing peace and unity and their relation to daily life. The program aspires to bring students of different religions and backgrounds closer together, while sharing mutual values of peace that are common to the three religions. Students get together, understand and learn about how to see the world through different perspectives, and how others are more similar to them than they initially may have thought.

Studies and Learning Initiatives

The Faculty of Social Sciences offers a Master's Program in Conflict Research, Management and Resolution, in cooperation with the Swiss Center for Conflict Research. Students learn about the theories, methodologies, strategies, and techniques for managing and resolving conflicts between social, economic, ethnic, and political groups, as well as states. This interdisciplinary program combines approaches from social psychology, international relations and political science, communication and media studies, sociology, education, and law.

The Law Faculty offers a one-year Master's Degree in Law, specializing in Human Rights and Transitional Justice and taught in English. The program offers academic courses taught by top legal experts from Israel, Europe, and North America, including courses on international humanitarian law, counter-terrorism law, international courts and tribunals, transitional justice, the law of the United Nations, legal aspects of the Middle East conflict, international criminal law, and international human rights law. The faculty is comprised of top academics and practitioners, including past and present members of the UN Human Rights Committee.

The Minerva Center for Human Rights and HUJI's Center for the Study of Multiculturalism and Diversity won a significant three-year grant from the European Union Peacebuilding Initiative for the establishment and operation of a new program whose main purpose is to create a multicultural academic platform to encourage entrepreneurship and community involvement around peacemaking. This is a unique program enabling experiential and interactive learning in project-based courses, and in multicultural, diverse groups of Jewish and Palestinian students across all academic units at Hebrew University. The program deals with issues related to life in a multicultural society and transitional justice and community action in divided cities, with an emphasis on the urban space of Jerusalem.

Actions on Campus

Merkaz Brera is a social organization established by HUJI law students, with the assistance of the Faculty of Law. The center aims to act on a range of levels to assist different populations in Jerusalem in obtaining their rights as equal citizens in the State of Israel.

The Abba Eban Centre for Israeli Diplomacy operates under the auspices of the Truman Institute. Ambassadors, foreign ministers, and policy makers from all over the world visit the Centre to participate in lectures or briefings by Truman scholars relating to current issues on Israeli-Palestinian relations and the Middle East.



17 PARTNERSHIPS FOR THE GOALS



Scientific Progress

Population growth and climate variability are leaving multiple regions without water to grow adequate food. To scale up international attempts in securing freshwater resources, a team involving the University of Maryland (USA), HUJI (Israel) and CultivAid (Ethiopia) in cooperation with Bahir Dar University (Ethiopia), Kathmandu University (Nepal), the Environment and Public Health Organization (Nepal), joined forces to facilitate the adoption of transformative on-farm treatment solutions that enable safe use of non-traditional irrigation water on food crops. This multinational team comprises the Global Alliance for Sustainable Water Reuse, Food and Health, a unique group of agricultural, public health, environmental, social/behavioral, engineering, and policy experts, working to alleviate global food and water insecurity, improve public health, and build climate resilience.

HUJI has partnered with Freie Universität Berlin, Peking University, St. Petersburg State University, and the University of British Columbia to establish the University Alliance for Sustainability. This alliance focuses on sustainability as a theme for collaborating in research, teaching, and campus management. In November 2022, a conference for emerging researchers is being held in Berlin on “Building Digital Bridges and Exploring the SDG Discourse,” including the workshop “Transdisciplinary Perspectives on Sustainable Development Research.”

Community Impact

Even though Israel has adopted the sustainable development goals of the UN, it is evident that the use and implementation of the SDGs is still preliminary and partial both in the public sector and in civil society. HUJI's Minerva Center for Human Rights seeks to increase the number of governmental bodies and civil society organizations, including academic entities, that implement SDGs to promote social, economic, and political change in Israel. In order to deal with the dilemmas and difficulties that implementation of SDGs raises, the Minerva Center established a forum led by Prof. Tomer Broude of the Faculty of Law, including civil society, government, and the academy, promoting discourse regarding SDGs to advance SDGs-focused policy changes. Additionally, the center prepared and published SDG implementation guides for governmental bodies and for civil society, to promote the implementation of SDGs and create social, economic, and political change that will benefit disadvantaged communities in Israel.

Studies and Learning Initiatives

HUJI offers a number of international master's degree courses dedicated to promoting health and wellbeing in developing countries. The Faculty of Social Sciences offers a flagship international 18-month graduate program, called Glocal. This interdisciplinary program focuses on growth in developing countries and cooperates with international organizations and local communities.

The International School of Agricultural Sciences, in cooperation with the Israel Ministry of Foreign Affairs Agency for International Development, offers short-term professional training courses in partnership with MASHAV. MASHAV training promotes effective partnerships for development implementation of cooperative projects by focusing on promoting food security and environmental protection in developing countries, as well as food security and sustainability. In 2022, “Feeding the Future: Food, Safety and Technology in Times of Global Change” was the topic of MASHAV, which included 27 professionals from 19 countries. In past years, the topics were water management, crop production under saline stress, Agri-Green management and other areas in which Israel has a comparative advantage and accumulated expertise.

Actions on Campus

In 2021, HUJI launched the Hebrew University Center for Sustainability as part of a strategic decision to place global sustainability at the top of the academic institution's priorities. The Center is directed by Prof. Yael Mishael and serves as an umbrella for all activities at the university in the field of sustainability in the broadest sense. The Center is affiliated with over 100 faculty members from varied faculties and disciplines, and promotes interdisciplinary research through funding projects with potential to make a difference on the subjects of food, social sciences, air and soil quality, human health, consumption, fauna, and many other related topics.

A major goal of the Center is to promote and implement sustainability beyond the borders of the university. To this end, the Center cooperates with industry, the private sector, civil society, academia, and government, in Israel and internationally. Thus, it benefits the promotion and development of technological solutions, raising public awareness, policy and implementation in the fields of sustainability, and providing innovative solutions for addressing Sustainable Development Goals.