# mountain

470 m above sea level Mount Carmel Campus

# city

23 m above sea level Downtown Campus sea

-1170 m below sea level Marine Research Labs

THE UNIVERSITY OF HAIFA SDG REPORT | NOVEMBER 2022



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# SUSTAINABILITY @ THE UNIVERSITY OF HAIFA

# Conscientious Research – Meaningful Education

The University of Haifa is a researchintensive university in the north of Israel and the most pluralistic institution of higher education in the country. A preeminent example of a mixed city, Haifa is home to Jews, Muslims, Christians, Baha'I, and Druze. Founded in 1963, it received full accreditation in 1972, and today offers all degrees, undergraduate and graduate, in seven faculties: Education, Humanities, Law, Social Sciences, Social Welfare and Health Sciences, Natural Sciences and Marine Sciences.

First in higher education in Israel to place the UN's 17 Sustainable Development Goals (SDGs) as its roadmap, the faculty and administration continue to extend the institution's commitment to human, societal, and environmental well-being. The geographic location affords the campus body a unique blend of educational and scientific opportunities within the Carmel mountaintop natural reserve, urban scape of downtown Haifa, and along the Mediterranean shore.

This past year, the University launched 3 multi-disciplinary hubs focusing on inequalities; brain and behavior; and climate and the environment. The hubs will promote research, training, and policy that relate to the profound complexities of sustainable development.

To orchestrate the advancement of university sustainability efforts, the Division of Innovation and Sustainability was established, fostering crossorganizational communication, decisionmaking, and collaborative implementation of the University's Sustainability Plan. In coordination with academic units, administration, operational divisions, and student organizations, the division ventures to integrate sustainability across research, teaching, public engagement, and onsite operations.

Over the past year, the University undertook the following notable, cross-organizational initiatives:

- established the Sustainability Council, creating multi-stakeholder teams of administrative staff, researchers and students, which work to address issues related to onsite operations (transportation, waste, renewable energy, and green construction);
- stimulated sustainability-focused research by seedfunding 18 research projects;
- promoted sustainability-related learning by funding the development of 13 new/redesigned courses within existing academic programs, as well as a 6-credit Sustainability and Environment cluster that meets undergraduate general studies requirements;
- encouraged public engagement by supporting faculty and student 'Impact Projects,' such as the Age Friendly University program (SDG 10), the Climate Crisis Hackathon (SDG 13), and the Coastal Trail (SDG 15);

At the University of Haifa, we will continue to strive towards an impactful and inclusive academia to create a more socially and environmentally sustainable reality!



#### Publications in Top 20 Journals in stainable Development. . 1976-Current **weighted by H5**

- accelerated University efforts toward carbon neutrality through various initiatives, including reducing public transport emissions with the new 4.4 Km cable car system, calculating carbon footprint (Scope 1, Scope 2, Scope 3), and new pilots aimed at greening campus conferences and integrating a more comprehensive dorm recycling program
- raised awareness both on and off campus for UofH's commitment to the UN Sustainable Development Goals (SDGs), for example by redesigning the UofH spokesperson's weekly newsletter around the SDGs, posting large displays across campus and inside 90% of classes, and launching a new, comprehensive guide to SDG activities (research, learning, public engagement, operations);
- constructed SDG measurement and reporting process and participated in the Times Higher Education yearly University Impact Ranking. This past year, the university was ranked #240 among the 1500 universities around the globe, and ranked within the top 100 worldwide in SDG3, SDG4, SDG5, SDG8, SDG10, SDG14, and SDG16.





END POVERTY IN All its forms Everywhere

# RESEARCH

### Ramifications of Labeling Children as "At-Risk"

Based on in-depth interviews with Israeli adults who were labeled "at risk" in their childhood and removed from their home by a court order due to their families' extreme poverty, Prof. Avihu Shoshana and Dr. Alin Frantsman-Spector of the Faculty of Education work to <u>highlight</u> the experiences of graduates commonly overlooked by clinical and educational experts, as well as policymakers.



# Economic Efficiency Exacerbates Inequality

Delivered at the 'Intellectual History of Global Inequality Conference' at the Aarhus University of Denmark, Dr. Eli Kook of the Faculty of Humanities presented his published work on how the dominant concept of economic efficiency used for Cost-Benefit Analysis not only



marginalizes distributive concerns, but actively exacerbates the problem of global inequality.

# PUBLIC ENGAGEMENT Overdraft and Delinguency Fees

Among the accomplishments of the Legal Clinics for Social Change is a recent report by the Israel Ministry of Finance that adopts the position of the clinic on interest charged on overdue debt, suggesting change in terms for delinquency fees. The legal clinics will continue to advocate for an erasure of all delinquency fees for people living in poverty.

#### **Financial Education Access**

The CalCaluta project is the brainchild of Aviad Shushan and Ye'ela Shulman, participants in <u>Haifa Innovation Labs' (HIL)</u> social innovation acceleration program. HIL runs Innovation and Entrepreneurship programming with a focus on Social Innovation and Impact Entrepreneurship. Through an 8-part series



accessible to youth-at-risk and young adults with special needs, CalCaluta equips populations experiencing social exclusion with financial education.

# LEARNING AND STUDENTS

Among the courses within the University's sustainability and environmental cluster is the MA course on *Food Security, Poverty and Sustainability* offered by the <u>Interdisciplinary Center for Study</u> <u>of Poverty and Social Exclusion</u>. Taught by center directors,

Prof. Roni Strier and Dr. Asaf Levanon, together with a variety of researchers and activists, the interdisciplinary course is available to graduate students in Public Health, Sociology, Social Work, and Political Science.

#### Higher Education & Low-income Single Motherhood

Rika Or Lev of the Department of Education Leadership and Policy's MA thesis on *Double Marginality: Low Socioeconomic Single*  Motherhood in Higher Education examines the motives, challenges, struggles, insights and strengths of single-parent students in Israeli universities and colleges.

## Financial Education Scholarship

For the last two years the Dean of Students Community Engagement Unit collaborated with Bank Mizrahi Tfachot to establish a scholarship program that trains students to teach financial education classes in local public schools.

# **OPERATIONS**

# Reducing Inequalities: Social Mobility Flagship Program

According to the 2022 Times of Higher Education Impact Rankings that evaluates 1,400+ universities from 100+ countries, the UofH ranks in the top 100 worldwide





for Reducing Inequalities. Representative of the efforts is the <u>Social Mobility Flagship Program</u> that offers comprehensive support services and advocacy for socioeconomically disadvantaged students.







END HUNGER. ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABI F AGRICULTURF

# RESEARCH

#### Wild Cereal Gene Bank

Led by Prof. Assaf Distelfeld, Prof. Tzion Fahima, and Dr. Tamar Krugman, the Wild Cereal Gene Bank at the Institute of Evolution provides unique gene pools of ~17.000 wild wheat and barley accessions from Israel. Their work offers solutions for improving disease and drought resistance, as well as grain yield and quality. These enable the reduction of chemicals and minerals and expand cultivation into regions suffering from climate change.



## **Teachings of Ancient Judean** Desert Food-Webs

Amona UofH's winnina ERC projects with great potential for international impact is Dr. Nimrod Marom's work on food security. which merges archaeology and biology to investigate humanenvironment interactions in antiquity and the effects on ancient food-webs in the fragile Judean Desert ecosystem.

#### PUBLIC ENGAGEMENT

# COVID-19: Combatting Increases in Food Insecurity

As Director of the Nutrition Department in the Ministry of Health, Dr. Ronit Endevelt of the Faculty of Social Welfare and Health Sciences, leads the formulation of nationwide policies to combat food insecurity that intensified during COVID-19 as unemployment grew, challenges arose with food import chains, which ere compounded by a lack

of acute governmental support for the local agriculture sector.

#### Leading National Food Security Council

Elected by the Minister of Welfare and Social Security as new Chairman of the Food Security Council, Prof. Roni Strier of the School of Social Work is leading



efforts to resume council activity after four years of hiatus. In the shadow of coronavirus, the council hopes to establish an accurate database, venture into

the field to meet those suffering. and then apply this knowledge to create a government framework to combat the phenomenon.

# LEARNING AND STUDENTS

# Dieticians for the Disadvantaged

Students in the School of Public Health study nutritional challenges that affect disadvantaged populations in Israel, and around the world, through the Dietitians for Disadvantaged Populations course. The course scrutinizes international intervention programs and guides students as they engage with local service organizations.

# Cross-sector Field Camp: Agriculture and Environment

According to the International Food and Agriculture Organization, agricultural production must increase by 60% to meet global needs in 2050. Given population growth and climate change, there is a pressing need for industry



to help agronomists prepare. To address these issues the Department of Natural Resources and Environmental Management held a field research camp on Agriculture and Environment that was open to doctoral candidates from the UofH, as well as partnering research institutes and working with the Ministry of Aariculture.

# **OPERATIONS**

# Low Cost Cafeteria

The Menza cafeteria operated by the UofH Student Union was established in order to serve low cost healthy food to students.



GOOD HEALTH AND WFI I BFING

# RESEARCH

## Brain and Behavior Hub

Haifa Brain and Behavior Hub. led by Prof. Simone G. Shamay-Tsoory has assembled 50 interdisciplinary researchers to conduct groundbreaking multidisciplinary brain and behavior research. The hub offers an array of opportunities for undergraduate, MA, doctoral, and postdoctoral studies, scientific discussion and exchange. Competitive scholarships based on excellence are available. Furthermore, the new partnership with Rambam Health Care Campus to establish the FMRI Center for Functional



Studies will allow researchers to access technological infrastructure and imaging devices.

Brain Imaging

#### Efficacy of the BNT162b2 Booster

Published in the New England Journal of Medicine, Clinical Infectious Disease, and Emerging Infectious Diseases, Dr. Lital Keinan-Boker's work with a national research team estimated efficacy of Pfizer-BioNTech



BNT162b2 Vaccine Booster

against SARS-CoV-2 Infection, resulting incidence of myocarditis. and the dynamics of reopening schools. Her research significantly contributed to science and policy formation regarding COVID-19.

## Genetics and Epigenetics of Aging and Longevity

Recent work published in Nature by a team of researchers including Prof. Gil Atzmon of the Faculty of Natural Sciences and Director of the Laboratory of Genetics and Epigenetics of Aging and Longevity provides genetic

structural variation references and improves ability to interpret rare variants. The lab's novel analyses using of genetics, genomics, epigenomic and bioinformatics tools enhances our understanding

of the role of genetics/genomics and epigenetics/epigenomics in disease, aging, and longevity.

# PUBLIC ENGAGEMENT

#### Global Guide for Hearing Impairment Interventions

Dr. Limor Lavie is a member of the Department of Communication Sciences and Disorders. Her involvement with the World Health Organization directed Package of Interventions for Rehabilitation Program led to the development of a set of systematic interventions for the hearing impaired that focuses on low and middle income countries and enables clients to plan, budget, and integrate the interventions across an array of service delivery platforms.

#### Protecting Medical Secrecy

Patient's personal information is compromised when medical professionals use public communication apps (such as Whatsapp) that

28%

of UofH graduates

earned Social Welfare

& Health Sciences

degrees last year

bypass official EMR (Electronic Medical Records) channels. To preserve the medical secrecy of patients, the Legal Clinics for

Social Change

In the Lab for Complex Human Activity and Participation, doctoral candidate Carmit Frisch, worked with Prof. Sarah Rosenbloom to develop an ADHD 82% diagnostic tool for early intervention of which with toddlers. are women Working



protocols and methods of analysis that overcome numerous functional hurdles, she developed a set of protocols that enable practitioners and parents to jointly

# LEARNING AND STUDENTS

Adaptation of IMR for Arab Israeli Society

appealed to the Israel Ministry of

Health who requested the clinics

propose alternative solutions,

which were subsequently

submitted in consultation

with national health and

communications experts.

Illness Management and Recovery (IMR) is an evidencebased practice designed to grant mental health consumers the knowledge and skills necessary to cope with their illness while also maintaining and achieving goals in their recovery. Among the achievements of Prof. David Roe of the Department of Community Mental Health, is a culturally sensitive IMR version intended for Israeli Arabs with serious mental illness. Department students study IMR in an intensive 9-month course that includes both theory and field practice.



# Early at-home ADHD Intervention

- with parents
- to develop
- standardized
- testina

build early at-home interventions.

# **OPERATIONS**

### New Campus Loop Trail

Students and staff enjoy the remarkable views as they walk and bike along the new UofH loop trail that spans the 5.2 km campus perimeter, offering new opportunities to stay in shape on campus.





ENSURE INCLUSIVE AND EOUITABLF OUALITY FDUCATION AND PROMOTE LIFFLONG **I FARNING OPPORTUNITIES FOR** ALL

# RESEARCH

#### Literacy in Africa

At the Edmond J. Safra Brain Research Center for the Study of Learning Disabilities, Prof. David Share is contributing a chapter to the first volume on *Literacy in* Africa to be published through Springer Nature and including contributions from over 20 African countries. Entitled Literacy and Illiteracy in Africa: The Tower of Babel Predicament, the chapter provides a continent-wide overview of the current state of literacy and illiteracy in Africa.

#### New Approaches to Teacher Mentoring

Preservice teacher education programs worldwide are



increasingly becoming field-based with student teaching as the capstone experience.

Consequently, mentor teachers at field-placements are bestowed with new functions, calling for reexamination of teacher mentoring approaches. Work published in the Journal of Teacher Education by Prof. Lily



Orland-Barak of the Faculty of Education analyzes underpinnings of major approaches to mentoring during student teaching, and proposes a new integrated approach.

# PUBLIC ENGAGEMENT

## Toll of COVID-19 on Early **Childhood Education**

Dr. Yair Ziv led a research team from the Faculty of Education in publishing a special report for the Ministry of Education National Committee on Covid-19 that aimed to inform decision makers on the increasing gaps and inequalities in early childhood in Israel as a result of the pandemic.

## Suicide Prevention among Students with Autism Spectrum Disorder

Cochair of the International Lobby for Suicide Prevention of Students in Higher Education and member of the Ministry of Health Committee for Suicide Prevention, Dr. Joy Ben-Tov of the Faculty of Education is



developing programs that focus on suicide prevention among students with Autism Spectrum Disorder, while providing training for healthcare professionals in the use of machine learning to identify suicide-risk in hotline chats.

# LEARNING AND STUDENTS

# New UofH Podcast

The *He'arat Shulaim* ('Footnote') podcast connects UofH

In the past year,

over 20.000

school students.

schools!

researchers directly with **Faculty of Education** the public. activities impacted Each episode features a elementary and high different scholar 8.000 teachers. 390 who discusses principles, and 600 their research in an informal

and light atmosphere. Since its launch in May, there have been over a thousand episode downloads. In the most popular episode to date, Prof. Oren Gazal-Ayal, Dean of the Faculty of Law, spoke about "How do the identities of judges influence their verdicts?"

#### First Israeli Forest School

"Education needs to rethink itself," says Anat Peterson, an MA alum from the Division for Investigating Education Alternatives. Anat is one of the founders of Beit HaYaar, the first forest school in Israel in a grove situated in the Merom HaGalil regional council. In operation since 2017, the school educates children with hands-on techniques for living in a more sustainable fashion and provides

a new model for schools within the Israeli education system.

# **OPERATIONS**

## Bloom School of Graduate Studies

To support an ambitious research agenda and attract high-quality doctoral candidates and postdoctoral fellows, the Chairman of the Board, Mr.

32% of UofH graduates earned through their studies the ualifications to teach elementary school.

academics who eagerly address global problems from a crossdisciplinary perspective.



Bradlev Bloom. and his family made a gift to establish the Bloom School of Graduate Studies. The school will play a key role in attracting

talented

# Lecture Hall Renovation

Recently approved budget of over \$1.5 million will allow for the complete renovation of two rundown lecture halls on campus.

# **Expanding Activity at Downtown** Campus

The Lorry I. Lokey City Campus spans three central areas in the rejuvenated Downtown Haifa Innovation Quarter. Designated as a technological campus, both the Information Systems and **Computer Science Departments** moved to the new, portside campus this year.







ACHIEVE GENDER EOUALITY AND FMPOWFR ALL WOMEN AND GIRLS

# RESEARCH

#### Protecting Women's Reproductive Riahts

#### The Forum for Gender, Law, and

Policy, headed by Prof. Nova Rimalt and Prof. Shulamit Almoq. is the first academic forum of its kind in Israel for the promotion of gender-related research, teaching and public policy initiatives and discussions. The Forum's mission is to develop a public agenda



to reduce gender inequality while focusing on law as the critical tool for promoting

women's empowerment and gender equality in Israel.

#### **Obstetric Violence**

Feminist-philosophical research on birth and obstetric violence developed by Prof. Sara Cohen Shabot, head of the Women and Gender Studies Graduate Program in the Faculty of Humanities, has informed recent discussions by providing arguments that explain the complexity of the phenomenon. Examining worldwide data on birth research



has led her to understand that obstetric violence is, in fact, aender violence.

# PUBLIC ENGAGEMENT

## Faculty Support for Community Social Workers

Dr. Hadass Goldblatt from the Department of Nursing volunteers to counsel the staff of Ohela. a local organization that treats women who have experienced complex sexual traumas. Employing her clinical social work expertise, Goldblatt supports Ohela staff members as they cope with the unique challenges they face.

# Promoting Sexual and Reproductive Health

Students at UofH volunteer in

both the policy and education departments at Open Door, the leading sexual health education organization in Israel. The Open Door training programs boost both economic and personal empowerment and help create jobs in the field of sexual education, while increasing knowledge of sexual and reproductive health throughout Israel.



29% of 1st year students are women who are the first generation of their families to enroll in Higher Education; a 12% increase from last year!

# 45% of last year's STEM graduates were female, a 15% increase from last vear!

# I FARNING AND STUDENTS

Druze Women's Business Community

Over 500 Druze women attend UofH. The *l'Sabil* ("The Road") Druze Entrepreneurial Group operates in collaboration with the Office of the Dean of Students. It is the first women's business community in Israel intended for Druze female students.

# Geopolitics of Gender and Migration

As of 2019, approximately 80 million people across the globe have been displaced or fled from their homes or homelands. 50% of these refugees are women and girls. Taught by Dr. Ruth Presser of the Department of Gender Studies, the course Women in Movement - Feminist Perspectives on Immigration and Refugees examines gender and migration within the context of geopolitics. power dynamics, and identity.

# **OPERATIONS**

# Commission for the Prevention of Sexual Harassment

To foster a campus environment that is free of sexual harassment. the University appointed Prof. Anat Derech-Zahavi to head the Commission for the Prevention of Sexual Harassment. This past year the committee reviewed complaints: provided faculty and staff training workshops: published new policy; and established an open access archive for the complaints.





# מגוון | הוגנות | שוויון تنوع | انصاف | مساواه | Diversity | Equity | Equality

אוניברסינות חיפה | כלמב מבינים | UNIVERSITY OF HAIFA

# Mentoring Women Researchers

Project METIS is a new initiative of the Gender Equity Unit, headed by Prof. Shulamit Almog. METIS is designed to mentor, counsel and assist women researchers at the University of Haifa. Métis in Greek mythology symbolizes female power and represents the demand for equal voice and agency.







**ENSURE AVAILABILITY** AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

# RESEARCH

#### Introduction of Desalination to Transboundary Water Negotiations

Desalination and hydro diplomacy: Refreshening transboundary water negotiations or adding salt to the wounds? Prof. David Katz of the Department of Geography and Environmental Studies provides an overview of actual and potential impacts of desalination on international hydro diplomacy, illustrating how desalination can introduce new issues of concern.

#### Identifying Probable Locations for Sewage Flooding

Flooding of sewage systems is an environmental hazard often



by pirate connections. The likelihood of this hazard stems from a conflation of the low

caused

socioeconomic standing of local residents, surface slope, and the pressures of urbanization. In the recently published Characterization of Localities with a High Likelihood of Illicit Connections between Runoff and Sewage Systems, Prof. Mashor



Housh and a team of scientists illustrate how law-enforcement can reduce economic and environmental damage by focusing its efforts on defined areas to reduce economic and environmental damages.

# PUBLIC ENGAGEMENT

#### AI for Urban Water Systems

Hosted by the Department of Natural Resources and **Environmental Management** together with the Water Research



Institute, Advanced Information Technology for Water and Agricultural Management: From the Models to the Fields brought together 50 international experts from a variety of institutes to discuss AI and data mining for smart monitoring of urban water systems, that help improve hydrosocial process representation of open-source hydrological models.

# LEARNING AND STUDENTS **Remote Sensing of Environment**

In the Laboratory for Cross-**Disciplinary Study of Marine** Systems, Dr. Yoav Lehahn is training the next generation of researchers to collect, analyze and interpret remote-sensing data from satellites, airplanes and drones. He currently teaches the topic together with Dr. Anna Brook, whose work on precision agriculture with satellite images in Remote Sensing of Environment. Doctoral candidates in Dr. Lehahn's lab use data-based modeling to study water quality in Israel's freshwater reservoirs.

#### Training Next Gen Water Managers

Israel is a global leader in water management. The domestic water

Between 2018 and 2020, water usage at UofH fell by nearly

sector is undergoing significant changes as it transitions to unnatural sources such as desalination and effluence. The





MA Program with a Specialization in Water Studies, operates within the Department of Geography and Environmental Studies. seeks to provide interdisciplinary training to the next generation of professionals as they navigate emerging structural and regulatory changes.

# **OPERATIONS**

A five-year budget of 1.6 million NIS was provided to replace old pipes with rust and holes found across campus, resulting in substantial reduction in water consumption where leaks were found and sealed.





GOOD HEALTH AND WFI I BFING

# RESEARCH

#### Energy Efficiency through Water **Distribution Optimization**

Elad Salomons is a doctoral candidate in the Department of Natural Resources and Environmental Management. Salomons works on water management and energy efficiency and recently published in both Journal of Water Resources Planning and Management and Journal of Cleaner Production articles reporting on his advances in practical optimization schemes for real-time operation of water distribution systems contributing to further energy efficiency.

#### Contradicting Effects of Wind **Turbines in Grazing Areas**



Hilah Segal Klein is a doctoral candidate in the Department of Natural Resources

and Environmental Management. Segal Klein examines the impact of Wind Energy initiatives on local rural communities in Kenya. The research illustrates how. paradoxically, people who live



under the turbines do not enjoy their benefit but, to the contrary, the turbines negatively effect their grazing areas. Segal Klein advocates the pursuance of a more holistic approach to lessen the contradicting impacts that often emerge among various SDGs.

# PUBLIC ENGAGEMENT

#### Transparent Decision Making in **Offshore Gas Fields**

A new report by Adv. Orin Shefler, a Senior Fellow at the Maritime Policy and Strategy Research <u>Center</u> introduces the premise that all field development solutions should include transparent decision-making processes. Shefler recommends that the

offloading of condensate for export from Leviathan, Tamar and other offshore gas fields should be revisited through a transparent decision-making process.

#### **Golan Regional Council Debates:** Are Turbines the Right Choice?

Currently, the Golan Regional Council is debating whether



Between 2018 and and gas was reduced by use on campus was reduced by 12%

> or not installing wind turbines to generate energy is a wise decision. The council has decided to commission a study led by Prof. Dan Malkinson of the Shamir Research Institute to monitor and assess the impact the turbines may have on the local ecosystem prior to advancing any projects.

33%

#### LEARNING AND STUDENTS

# Eco Wave Start-Up: Harnessing the Power of Waves

Hailing from the former Soviet Union, at the age of two weeks, UofH alum Ina Braverman experienced the Chernobyl disaster that led to her developing both a childhood illness and being profoundly motivated to lead a meaningful life. She did just that, founding Eco Wave Power together with David Leb. Eco Wave's pioneering technology uses floaters attached to existing structures on land to produce cost-efficient green electricity from ocean waves.

# **Energy Policy Management**

Exposed to a wide variety of courses on energy efficiency, development, promotion, economics, as well as analysis of environmental, economic and regulation, MA students in



# the Energy Policy Management

program train for industry-level management and policy-making roles.

# **OPERATIONS**

A recently approved 12 million NIS budget was approved to increase energy efficiency and reduce greenhouse gas emissions on campus. The budget will allow for the replacement of old chillers, transition from boilers to heat pumps to phase out the use of diesel fuel, and the replacement of outdated electric circuit boards.







PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL

# RESEARCH

#### Increasing Wage Inequality

Prof. Tali Kristal of the Department of Sociology led a team of researchers from 14 high-income countries in a study whose results were recently published in the Proceedings of the National Academy of Sciences. Entitled <u>Rising Between-Workplace</u> <u>Inequalities in High-Income</u> <u>Countries</u> the article suggests that firm-level restructuring and increasing wage inequalities between workplaces are more



central contributors to rising income inequality than previously recognized.

# Promoting Human Resource Expertise

Led by Prof. Shay Tzafrir, the Center for the Study of Organizations & Human Resource Management (COHRM) operates within the School of Business Administration to promote labor relations and human resource expertise through research, dissemination, learning interdisciplinary research



collaboration, and public engagement.

# Inclusive Workplace for Employees with Autism

In recent research, Dr. Naomi Schneur of the Department of Occupational Therapy, led a team of researchers in project aimed to <u>examine inclusion</u> in the workplace through an analysis of quantitative data and dyadic interviews of employees with autiem their co

employees with autism, their coworkers, and supervisors. Their recommendations were put forth in a handbook for employers and jointly published by the National Insurance Institute and Ministry of Justice and Labor.

# PUBLIC ENGAGEMENT

# Updating MBA Curriculums Nationwide

Professor Michal Biron is the director of both the Executive MBA and the MBA Program for Strategic Human Resource Management. He now chairs the Ministry of Education's committee





to <u>revamp business management</u> <u>curriculum nationally</u> and leads national planning to ensure that Israeli graduates are prepared for the ever-changing global market. public health principles to promote health in the workplace, introducing practical skills such as needs assessment, health risk assessment, design and implementation.

#### LEARNING AND STUDENTS

#### Healthy Behavior among Sanitation Workers

Through ergonomic evaluation and intervention conducted by pairs of Arabic/Hebrew-speaking students from the Department of Occupational Therapy, sanitation workers from minority and low socio-economic backgrounds at academic institutions are empowered to engage in healthier behavior.

#### Professional Training for Health Advancement in the Workplace

Dr. Yonah Amster's course *Health Advancement in the Workplace* is offered within the MA program in Public Health. The course emphasizes the application of



# **OPERATIONS**

# **Publishing Salary Gaps**

To prevent gender discrimination and promote equity, in 2021 the university audited salary gaps according to gender and pursued accountability by publishing any existing discrepancies on the public online payroll system. Clear criteria regulating pay scale equity in public institutions in Israel helps to mitigate gaps.

## Inclusive Employee Engagement Surveying

Administered by a diverse group of employees, the engagement survey conducted last year by the Human Resources Department took special measures to be more inclusive, for example they invited a range of employees to take part in follow-up focus groups to discuss survey results and make recommendations.

# **9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION

# RESEARCH

# Automated Recognition of Pain in Cats

Information Systems Department Prof. Ilan Shimshoni, Marcelo Feighelstein, and Dr. Anna Zamanski published <u>Automated</u> <u>Recognition of Pain in Cats</u> in Scientific Reports, expanding research on computer vision and robotics through this comparative study of two different paths



towards automatizing pain recognition in facial images of domestic short haired

cats.

#### Precision Medicine to combat Parkinson's

In the <u>Precision Disease Modeling</u> <u>lab</u>, Dr. Shani Stern and team focus on finding cures for Parkinson's disease, bipolar disorder, and rare cognitive mutations that lead to intellectual disability, epilepsy and autism. Applying molecular biology





combined with biophysical, electrophysiological, and numerical simulation platforms, adult cells from human patients are reprogrammed into pluripotent stem cells. The team aims to develop precision medical programs that are based on the underlying mechanisms they identify in studies such as the two recently published in <u>Molecular</u>. <u>Psychiatry</u>.

#### SeaErra: Underwater Visibility

Until recently, one of the major obstacles to studying underwater life was poor visibility. Led by Prof. Tali Treibitz, the Marine Imaging Lab has created a line of products and solutions to improve our ability to see underwater. <u>Carmel-University of Haifa Economic.</u> <u>Corporation Ltd.</u> made a seed investment to advance the <u>SeaErra Lab</u>'s groundbreaking algorithms and tools so that SeaErra could bring its patented suite of innovations to market.

# PUBLIC ENGAGEMENT

# Managing Long Wait for Psychiatric Treatment

Aviv Kushner is a graduate of the MA in Psychodrama program. With guidance and support from the <u>Haifa Innovation Lab's (HIL)</u>, Kushner developed <u>WellPlay</u> in response to patients' complaints he heard while working in the psychiatric hospital. They said they had to wait months before being treated, often isolated at home with no friends or family. Together with the director of the hospital, he developed an application that allows patients to receive treatments online while they are waiting.

# Social Innovation and Entrepreneurship

In its first year of activity, Kayama, the training Center for Social Innovation and Impact Entrepreneurship at UofH, organized an event on 'Clean Investing,' and launched courses on Impact Measurement and Management, as well as *AI*: *Bridging Ethics and Impact*. In recognition of the center's success, the Israel Innovation Authority awarded a significant monetary prize to center leaders, Dr. Maayan Agman and Stav Bar Shani.

# LEARNING AND STUDENTS International MBA in

Sustainability Israel is a world leader in developing sustainable technology, renewable water and energy resources. The <u>Global Green MBA Program</u> is a one-year English program that prepares students for careers as sustainability managers in corporations, small businesses, non-profit organizations, and governmental agencies.

# Assisting People with Low Vision through AR

Under the direction of Dr. Sarit Szpiro from the Faculty of Education, <u>AmpliLab</u> develops novel ways to enhance people's abilities with technology and training. Rami Salameh is MA student in Computer Science and Information Systems who is creating augmented reality glasses (i.e., Hololens) that can be used to assist people with low vision in tasks like mobility and shopping.



### **OPERATIONS**

#### Science and Technology Scholarships

Together, the Dean of Students Community Engagement Unit and Ministry of Science and Technology, allocate scholarships to 49 undergraduates studying science and technology. As part of the scholarship program, students provide academic support to area high school students studying science and technology.



**REDUCE INEOUALITY** WITHIN AND AMONG COUNTRIES

# RESEARCH

#### Monitoring the Evolution of Inequality

Directed by Dr. Meir Yaish and Prof. Tali Kristal, the newly established Haifa Center on the Politics of Inequality engages in research, policy analysis, and training to monitor and document the evolution of inequality in Israel. Providing state-of-the-art infrastructure for research, public policy makers access relevant science-based evidence, and train the next generation of scholars and social activists. A recent study by Prof. Yaish and his team examined



Intergenerational Educational Mobility and Life Course Economic Trajectories in a Social Democratic Welfare State.

#### Marginalization of Older People

The Minerva Center on Intersectionality in Aging (MCIA) was founded to initiate innovative. interdisciplinary, multi-method



research and implementation projects related to marginalized old persons. Such marginalization is a consequence of a socially constructed process that includes ageism, various social and healthrelated disadvantages, and a lack of balance between needs and rights of this population.

# PUBLIC ENGAGEMENT Court Ruling: Education for Asylum Seekers

For 5 years the Legal Clinics for Social Change worked to combat a central city in Israel's premeditated efforts to prevent the children of asylum seekers from entering its educational frameworks. In 2020, the clinic filed a petition on behalf of 242 students that led to a court

ruling that guarantees proper registration of students and bans the existence of segregated preschools.

## Promoting Arabic Literacy

To bridge educational gaps and provide access for Arab elementary school students to quality education in Israel, Dr. Yasmin Shalhoub-Awwad from the Faculty of Education is working with 80 schools to carry out long-



term literacy research in Arabic. Utilizing this expertise, she is assisting the Ministry of Education and Authority for Economic Development in Minority Populations to build the new 5-year Government Resolution #550 that supports education programs in Arab society.

# LEARNING AND STUDENTS

# Mindfulness-Based Trauma **Recovery for Refugee**

A talented team of students work with Prof. Amit Bernstein's **Observing Minds Laboratory** 

housed in the School of Psychology to operate the Mindfulness-Based Trauma Recovery for Refugees initiative. In partnership with several field-based NGO's, the initiative provides socio-culturally-adapted mindfulness and compassion training that is trauma-sensitive and can be applied to diverse populations of asylum seekers and refugees. The team runs a mobile laboratory dedicated to the mental health of forcibly displaced persons, asylum seekers from East Africa, who have survived conflict and traumatic atrocities.

## Middle Eastern Culture and Film Studies

To pave the way towards a Middle East with economic and cultural cooperation between nations, the MA Program in Middle Eastern Culture and Film Studies brings a diverse group of students together to study film, television, and social networks. Recent

student accomplishments include a successful Israeli TV show whose story rights were sold to Sony International, and a group of students contracted to conduct research for a BBC documentary on Israeli Arabs.

# **OPERATIONS**

# Age Friendly University

Taking aim at ageism. UofH is proud to be the first university in Israel to launch the inclusive AFU-Age Friendly University program intended to integrate older people into its core activities (studies, research, culture...). Prof. Anna Zisberg from the Center for the Research and Study of Aging heads the steering committee that planned the activities for the first vear.



\*Not including post-doctoral fellows.

UofH ranks in the TNP 100 worldwide for Reducing Inequalities

Source: Times Higher **Education Impact Rankings survey** evaluating 1,400+ universities from 100+ countries (published in 2022)

# Scholarships Promoting Equity and Inclusion

Among the unique scholarships offered by the Dean of Students office to promote equity and inclusion are the Delta Program for students of Ethiopian descent and "Leading the Future," through which 90 students from underrepresented groups in academia receive comprehensive support throughout their degree.

# ENROLLMENT BY DEGREE

# SUSTAINABLE CITIES AND COMMUNITIES



MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, **RESILIENT AND** SUSTAINABLE

# RESEARCH

#### New School of Archaeology and Maritime Culture

Recruited to aid in the establishment of the new School of Archaeology and Maritime

Culture, Prof. Israel Finkelstein of the Faculty of Humanities aims to make the school a catalyst for lifting Israeli universities to the upper echelon of international archaeology rankings. The School will be the first-of-its-kind in Israel to integrate under one roof the full scope of archaeological activities - on land and in the sea. Recently, UofH signed a new agreement



Technion to 705 strengthen

with the

#### archaeological research.

#### **Emergency Readiness**

The National Knowledge and Research Center for Emergency Readiness serves as a think-tank for policy framers, decisionmakers, and a cross-section of academic practitioners. The center functions as a hub for



research and knowledge on coping with emergency situations - before (deterrence, mitigation, and preparation for response). during (crisis management), and after the crisis (short and long term recovery). Furthermore, Multidimensional hazards, vulnerabilities, and perceived risks regarding climate change and Covid-19 at the city level are being studied by a team from the Department of Geography and Environmental Studies researchers.

# **PUBLIC ENGAGEMENT**

# Art Studios for Youth-at-Risk

Dr. Michal Bat Or of the Faculty of Health and Emili Sagol Creative Arts Therapies Research Center opened two studio spaces in the

Haifa area - in a shelter for youth involved in prostitution and in the Karmiel Children and Youth Village for At Risk Youth. Both studios hold gallery events and invite the wider community to view the participants' work.



# Green Roofs

In partnership with the municipality, the Kadas Center launched the 'Green Roof' project through which local residents participate in a month-long course in which they learn how to start and tend to public and private rooftop gardens. Accessible to the public, participants earn practical experience as they learn in a living "green roof" strategically situated atop the building of the Center for City Residents Services.

# LEARNING AND STUDENTS

# Harmony: Arab-Jewish Orchestra

Composed of Muslim, Jewish, Christian and Druze musicians, the UofH Arab-Jewish Orchestra inspires cooperation, openness and harmony. The Orchestra plays instruments representing both East and West, and sing together in Arabic, Hebrew, and English. Under the Direction of Prof. Taiseer Elias of the School of Arts, the orchestra performs across Israel and worldwide.

#### Fostering Environmental Activism Locally

A newly developed course by Prof. Noga Collins-Kriener and Prof. Lea Wittenberg on Environmental Activism aims to advance environmental activity among diverse communities of Israel's north. Through the course. the university will contribute to communal and environmental efforts by teaching local actors and strengthening regional connections.

# **OPERATIONS**

New Cable Car System!

UofH is now one of the only universities worldwide linked to the city via cable car. The recently completed 4.4 Km Cable Car system climbs 460 meters to connect the city's main train station, the Technion, and



University of Haifa's mountain campus. Reducing public transport emissions, the cable car is fast becoming a major city tourist attraction.

## Hecht Museum: Jewish Art

For centuries, Jews in European countries could not integrate into the popular artistic practices. This changed during the Enlightenment and Emancipation period in the late eighteenth century, first in Germany and Western Europe. The UofH Hecht Museum's Jewish Art Exhibit includes works by early Jewish-Dutch painter Joseph Israels, as well as Herman Struck. Jacob Steinhart and Joseph Budko, all of whom immigrated to Israel and took part in the early process of crystallizing Israeli art.



FNSURF SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS

# RESEARCH

#### Impact of Shipping Underwater Radiated Noise

Dr. Roee Diamant (Department of Marine Technologies) and Prof. Aviad Sheinin (Morris Kahn Marine Research Station) quantify the widespread and long-term disturbance of Underwater Radiated Noise to the marine

ecosystem; its impacts on animal behavior has never before been studied statistically over long



periods of time. The conclusion will serve policy makers in the coming discussions

on measuring underwater radiated noise in a vessel's annual sailing test.

#### Mariculture for Food Security and Preserving Local Ecosystem

Mariculture is poised to present solutions for food security, rising human population and land shortage. However, site sampling and predictive modeling are required before development begins to impact the local ecosystem. Dr. Leigh Livne and team at the Morris Kahn Marine Research Station, find that small



production farms (< 1000 t) do not negatively impact local habitat, and consistent monitoring of benthic life and sediments can mitigate negative impact.

# PUBLIC ENGAGEMENT

## Industrial Symbiosis: End of Waste

Industrial symbiosis is when companies trade by-products or waste and thus "close the circle" to create a zero waste rating. In a recent report by the head of the Department of Natural Resources and Environmental Management,

Prof. Ofira Avalon and her research team surveyed 75 Israeli manufacturers, managers, and engineers and applied their findings to promote policy tools required to advance industrial

environmental symbiosis. A new course by Haifa Innovation Labs teaches about circular economy and circular business models.

Over the last four years there was an <b>8%</b> reduction in paper	UofH mountaintop and portside campuses are now connected by the new cable car
reduction in paper	the new cable car
consumption at UofH.	system.

# LEARNING AND STUDENTS

#### Integrating Environmental Sustainability into Nursing

The Cheryl Spencer Department of Nursing is the first nursing

program in the country to integrate theoretical and practical environmental sustainability

curriculum. Through this new initiative, over 100 students identified areas within the healthcare institution where they are interning that would benefit from intervention designed to promote sustainability and savings. Many of the proposals were accepted by their employers and implemented and, in consequence, have made a tangible positive impact.

# Making the Garbage Bloom!

Between 1952 and 1998, the Hiriya man-made mountain of rubbish grew, peaking at 60 meters above

its surroundings and 80 meters above sea level. Garbage disposal methods historically practiced in Israel have created several environmental issues. Dr. Riva Waldman, who recently earned her doctorate through the Department of Natural Resources and Environmental Management, is leading the current efforts by the Dan Region Association of Towns to transform the Hiriya dump into an industrial park and education center.

# **OPERATIONS**

# Reducing Use of Disposable Water Bottles

Faculty efforts to "green" conferences at University of Haifa are positively influencing university consumption practices. Recently, the University approved the purchasing of compact, mobile event water refill stations as part of a pilot to reduce the use of disposable water bottles and CUDS.

#### **Digital Signatures and** Documents

Beginning with a Pilot in the HR Department, the University is transitioning to digital documents and signatures. Over a 7-month



period, 2225 processes took place digitally - saving over 9000 pieces of paper. The Pilot project results were presented to the Green Campus committee and will be expanded.

## Cafeterias Incentivize Multi-Use Cups

A new initiative of the Operations Unit towards a green campus encourages faculty, staff and students to use multi-use cups for drinks purchased at 9 locations on campus. The student union cafeteria gives a 50% discount to those who bring their own multi-use cups. It is hoped that this dynamic will expand to other private on-campus food vendors.





TAKE URGENT ACTION TO COMBAT CLIMATE CHANGE AND ITS IMPACTS

# RESEARCH

#### Ancient Grapes of the Negev

Amona UofH's winning ERC projects with great potential for global impact is the work of Prof. Guy Bar-Oz from the Faculty of Humanities aimed at restoring heritage grape cultivars in the Negev and reviving an ancient Byzantine grape variety. This work is a response to global warming, and of vital importance in the guest to expand our search for authentic local ancient breeds that were cultivated and bred for centuries in dry arid areas.



#### Climate, Environment and Sustainability Hub

This year the University announced its new Climate. Environment and Sustainability Hub. Headed by Prof. Shlomit Paz from the Department of Geography and Environmental Studies, the Hub is responsible for coordinating all UofH activities related to the climate crisis. environment, sustainability



and sustainable development. while also focusing on research, teaching, and Public Engagement.

# Lessons of the Levant Basin

# Prof. Gil Rilov's lab for Marine

Community Ecology researches the Levant Basin, one the marine regions most sensitive to climate change. In these naturally extreme coastal water conditions, the lab studies the impact of climate change on species community size and performance. Recent work by Rilov was published in Global Change Biology.

# PUBLIC FNGAGFMFNT Wildfire Cooperative Planning

Dr. Avi Bar Massada from the Faculty of Natural Sciences at Oranim is part of "firEUrisk," a EU research consortium that has received 10 million Euros in funding. The center is engaged in cooperative planning for disasters caused by climate change. Composed of 38 partners from 18 countries, the group focuses on better assessing the risk of wildfires in Europe, reducing the risk of wildfire, and promoting societal adaptations to improve preparedness and prevention.

#### Environmental Epidemiology

Dr. Maya Negev of the School of Public Health is a co-leader of the Climate Subcommittee of the International Society for Environmental Epidemiology's Policy Committee, the lead author of the health sub-chapter in the Mediterranean Experts on Climate and Environmental Change 2021 Assessment Report; a MED

2050 member: and a member of Israel's Presidential Climate Forum. She widely contributes her expertise on hazards, exposures, and vulnerabilities to climate change. Among her recent works is Barriers and Enablers for Integrating Public Health Cobenefits in Urban Climate Policy

published in the Annual Review for Public Health

# Restoring Carbon Balance

As Scientific Advisor to the **REWIND Start-Up, Prof. Dror** Angel of the Dept of Maritime Civilizations & Recanati Institute for Maritime Studies is part of a team creating solutions to restore the earth's carbon balance by storing organic carbon in anoxic water.

# LEARNING AND STUDENTS In Memory of Lior Boker: Climate **Crisis Hackathon**

During 2010 the Carmel forests wildfires, 25 sg. km went up in flames consuming millions of trees, killing 44 people and causing the evacuation of nearly 17,000 people from their homes. In memory of the late Lior Boker who perished in the fire, Avishag, his daughter and Department of Information Systems student, established a unique annual hackathon through Haifa Innovation Labs (HIL) that grapples with challenges related to the climate crisis, floods. and fires.

# **Promoting Environmental Studies** among High School Students

High school students in the UofH's Young Scientists Hub are introduced to environmental studies, arts and society, in the hope of sparking their interest in pursuing academic studies pertaining to climate change.

# **OPERATIONS**

## RFP for New Courses on Sustainability

To expand sustainability-related course offerings, the newly established Division of Innovation and Sustainability published an RFP inviting faculty to propose relevant, new courses. Two of the new courses approved were Prof. Maya Negev's course on the UN Sustainable Development Goals (SDGs) and Prof. Yifat Eran's Course on Environmental, Social, Governance (ESG) Ratings

# **Offsetting Carbon Emissions**

To offset carbon emissions from international travel, the annual Haifa Conference in Marine Sciences donated the balance of its emissions to This is My Earth to protect biodiversity (see SDG 17).



Photo By Nitzan Zohar







CONSERVE AND SUSTAINABLY USE THE OCEANS. SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

# RESEARCH

#### Whales Whispering

Awarded over 20 million NIS by the Audacious Project CETI Cetacean Translation Initiative.

Prof. Dan Tchernov from the Leon H. Charney School of Marine Sciences seeks to understand sperm whales on a level never before achieved. Using advanced machine learning and state-ofthe-art noninvasive robotics, his team listens and translates the communication of these majestic creatures...and will perhaps even talk back.

## Coral Reefs: Cellular and Molecular makeup



Dr. Shani Levy and Prof. Tali Mass recently published a lead article in Cell

that explores the cell types and molecular pathways that underpin the biology of reef-building corals that have the most biodiverse marine ecosystems on earth. Using single-cell RNA sequencing, the team defined over 40 cell types across the life cycle of Stylophora pistillata (a species of



stony coral), including specialized immune cells.

# Early Warning Modeling System

Prof. Ilana Berman-Frank heads the Leon H. Charney School of Marine Sciences. In partnership with GEOMAR Helmholtz Centre for Ocean Research Kiel she is coleading a team of 15 researchers to examine the impacts of climate change in the Mediterranean Sea that can serve as an early warning modelling system for oceans worldwide.

# PUBLIC ENGAGEMENT

#### **Donation to National Maritime** Museum

The underwater acoustic and navigation laboratory (ANL) made a significant donation to the National Maritime Museum in Haifa. The permanent display includes a "bubble" that projects noise of marine animals and vessels and conveys to visitors the need to monitor noise pollution in our seas. Since 2020, the display has already attracted over 20,000 visitors.



#### Mediterranean Sea Research Center of Israel

Prof. Ilana Berman is the chair of the Education Committee of the Mediterranean Sea Research Center of Israel (MERCI) consortium that includes all of the Universities in Israel. Leading by example, Berman spearheads national community outreach and education programs pertaining to Mediterranean Sea research and education.

# LEARNING AND STUDENTS Endangered Sharks

# UofH Marine Biology and Biological Oceanography alum, Yaara Gossmark, is one of the founders of NGO "Sharks in Israel,". Gossmark is a graduate of the HIL Fund, established in 2018 to observe and report on endangered sharks and fish in the

Mediterranean Sea. In order to preserve this endangered species,

she posits that we must help humans better appreciate them. "It all starts with the bad name they have as an animal, a stigma that is difficult to change and is reinforced by the media."

# Making Marine Biology Accessible

All advanced degree students are invited to participate in the course Water, Society, Education, and Leadership organized by Dr. Daniel Sher and Dr. Tsvia Gildor from the Department of Marine Biology. The course trains students for leadership positions in the field of oceans and society. with emphasis on the importance of making Marine Sciences an accessible tool for preserving and developing sustainable practices in marginalized communities.

## Mediterranean Sea Research: Science, Education, and Art

Broadcasted simultaneously in English, Hebrew, and Arabic, the 8th Haifa Conference on Mediterranean Sea Research is sponsored by the Leon H. Charney School of Marine Sciences. Focusing on the conflation of science, education and art. the conference aims to foster dialogue and, ultimately, joint action between the disciplines.

# **OPERATIONS**

Monumental Donation to establish International Faculty of Global Climate Change A monumental gift of 50 million

NIS from the Kadas Family Charitable Fund will go towards

establishing the International Faculty Initiative of Global Climate Change at UofH. The initiative aims to create a virtual community of scholars across the globe who focus on marine and coastal ecology research in the Mediterranean Basin. "The eastern Mediterranean Sea hosts more than 17,000 marine species and contributes an estimated 7 percent to the world's marine biodiversity. Today, this rich ecosystem has come under threat from climate change, pollution, overfishing, and coastal infrastructure projects," said Dan Tchernov, scientific director of the UofH Mediterranean Sea Research Center of Israel









AND PROMOTE SUSTAINABLE USE OF TERRESTRIAL ECOSYSTEMS. SUSTAINABLY MANAGE FORESTS. COMBAT DESERTIFICATION, AND HAIT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY 2201

PROTECT, RESTORE

# RESEARCH

#### Future of Our Coastal Cities

#### Dr. David Friesem's

BEFOREtheFLOOD is funded by European Research Commission (ERC). The project applies high-tech archaeological field techniques to investigate the responses of Neolithic coastal settlements to environmental challenges. The results have tremendous potential to critically impact the current-day responses coastal communities are having to rising sea levels.



Farmers Motivations to engage in Sustainable

Practices Considering the impacts agricultural

practices are having on the natural environment, a comprehensive understanding of needs and motivations of farmers is critical in bringing about effective behavioral changes, while encouraging use of more environmentally friendly agricultural practices. Dr. Keren Kaplan-Mintz and Prof. Ofira Ayalon are examining the origins of the psychological, economic, and social outlooks and practices



of orchard farmers in the Golan Heights to determine their potential willingness to employ sustainable practices.

#### Plant and Animal Reciprocal Relations

Professor Moshe Inbar from the Department of Evolutionary and Environmental Biology teaches a course on the Reciprocal Relations of Animals and Plants. The course examines the relationship between animals, especially insects, and their host plants. Reviewing a variety of animal-plant host interactions, such as pollination, seed scattering and carnivorous plants, students learn about plants as heterogeneous sources of food for animals, defense mechanisms of plants, and modifications that allow animals to eat plants.

## Mosquitos: Mitigating Vector-Borne Diseases

Mosquitoes remain the primary cause of vector-borne diseases worldwide, and knowledge about their behavior and distribution may prove vital for population control. Various species of mosquitoes respond to chemical cues indicating the presence of predators, especially larvivores fish, during adult oviposition and larval foraging. In the UofH's Mosquito-Behavior Lab, researchers recently isolated fishsymbiotic bacteria, that produces volatiles that affect mosquito oviposition, habitat selection and larval behavior and development.

# PUBLIC ENGAGEMENT

#### **Coastal Trail**

Shvil HaYam is a new National Hiking Trail extending 240 KM along the Mediterranean Coast, from Rosh Hanikra in the north all the way down to Zikim in the south. Initiated by a team of researchers lead by Dr. Noga Collins-Kreiner of the Department of Geography and Environmental Studies in 2022, the Ministry of Environmental Protection inaugurated the trail this year. Furthermore, Dr. Collins-Kreiner's proposed course on the Coastal Trail is among the winners of the Division of Innovation and Sustainability RFP for new courses in sustainability.

#### Preventing Bird-Aircraft Collisions

The Israeli Air Force (IAF) encounters areat flocks of large-sized, migrating birds, with hundreds of collisions occurring each year. Last year, the IAF spent 4.5 million NIS to repair and replace bird-damaged engines. The Animal Flight Lab at UofH is headed by Prof. Nir Sapir who is collecting data to accurately predict bird migration. The model is being shared with northern European nations who face similar challenges with geese frequently colliding with aircrafts.

#### AI for Community Science **Biodiversity Monitoring**

With the recent ecological crisis and the mass extinction of species, ecologists are trying to develop novel approaches for estimating species populations. Inspired by recent advancements in Artificial Intelligence (AI) and the success of crowdsourcing initiatives. Al for Citizen Science Biodiversity Monitorina (Al4Biodiversity) is a project at UofH Data Science Research Center (DSRC) where researchers are collaborating with Israel's Nature and Parks Authority to apply innovative methods for estimating hyena populations.

# LEARNING AND STUDENTS Examining Human-Ecosystem Relationship

The Ecology and Space MA seminar is taught by Prof. Dan Malikson from the Department of Geography and Environmental Studies. Its aim it to train students to execute scientific research that relates to interactions between man and ecosystems, examining impact on processes and functioning of natural, agricultural and urban ecosystems.

# **OPERATIONS** Road to the Millenia

Envisioned by the late Dr. Reuben Hecht, after whom the UofH Hecht Museum is named. Road to the Millenia is a pathway of reconstructed buildings that represent different periods in the history of Palestine. The goal of the project is to locate and salvage the remains of ancient buildings across the country that are slated for destruction and then relocated them to designated reconstruction areas along campus paths.







PEACE, JUSTICE

PROMOTE PEACEFUL AND INCLUSIVE SOCIFTIES FOR SUSTAINABLE DEVELOPMENT. **PROVIDE ACCESS** TO JUSTICE FOR ALL AND BUILD FFFFCTIVE. ACCOUNTABLE AND INCLUSIVE INSTITUTIONS AT ALL LEVELS

# RESEARCH

## The Power of Listening in a Polarized World

Supported through a \$1 million grant by Templeton World Charity, New research by Dr. Netta Weinstein and Dr. Guy Itzchakov of the Faculty of Social Welfare and Health Services is helping to build a deeper scientific understanding of the power of listening, and its importance for human wellbeing, such as in their recent paper published in Personality and Social Psychology Bulletin. Their insight into the practices involved in attentive listening during disagreements offers tools to reduce polarization.



# Automating Justice

of Law) was recently

Prof. Orna Rabinovich-Einy (Faculty

awarded the prestigious ERC Consolidator Grant. Her study, The 'Vanishing Third Party': Access to Justice, Procedural Justice and Substantive Justice in the Age of Dispute Resolution Automation examines the impact on access and fairness



in the justice system in result of the practice of assigning automated substitutions for iudges and mediators.

# **PUBLIC ENGAGEMENT**

# **Emergency Management**

Emergency Management in Israel: Towards Israeli Doctrine and a Comprehensive Regulatory Framework is a report published by the Minerva Center for the Study of the Rule of Law in Extreme Situations and the National Center for Knowledge and Research in the Field of Emergency Preparedness. In the study, Faculty of Law personnel compare how the State of Israel regulates emergencies in comparison to other countries and point to the barriers that

prevent the government from properly regulating its responses. Participants regularly meet with policy makers at the national level to promote new and integrated legislation.

# **Fostering Interfaith Dialogue**

Under the direction of Dr. Uriel Simonsohn. The Haifa Laboratory for Religious Studies

promotes interfaith dialogue and interdisciplinary collaboration. The lab runs a series of dialogues among diverse religious leadership; fellowship program for young researchers; international symposiums; and offers a unique framework for legal practitioners in Israel with diverse religious backgrounds.

# Criminal Law Man of the Year!

Prof. Oren Gazal-Aval is the Dean of the Faculty of Law and was recently named 'Man of the Year' by the Legal Academy, in honor of his impressive academic record, public engagement, and extensive reforms in the Israeli legal system. Gazal-Ayal is considered one of the most influential researchers in criminal law in Israel serving on over 10 national committees.

# LEARNING AND STUDENTS We are All in One Boat

Mabat, whose slogan is "we are all in one boat." is a crew of 5 Arab and 5 Jewish students who sail together for four days at a time. These trips foster teamwork in a multicultural environment as participants must overcome

linguistic and cultural barriers. The trips include preparatory workshops and post-activity reflection meetings.

# Peace and Conflict Management

As a deeply divided society in protracted conflict with neighbouring countries, Israel provides a unique environment to study how conflicts manifest at a grassroots level and unfold through the government and international community. The MA Program in Peace and Conflict Management Studies is a rigorous program introducing an interdisciplinary approach to peace and conflict management. As part of the program, students engage in a field internship working with local NGOs in peace and conflict management.



# **OPERATIONS**

## Campus Dialogue in Times of Anger and Pain

Marked by protests and police riot control, rocket attacks on Israel, and retaliatory Israeli airstrikes in the Gaza Strip in May 2021. disturbing reports of violence and bloodshed across Israeli society. University administration asked students and faculty to remain in dialogue amid the anger and pain. The Dean of Students and Jewish-Arab Community Leadership Program invited the university community to virtual conversation circles guided by the Mabat Association

# Code of Ethics: Free Speech

The University Code of Ethics clearly outlines how it protects the freedom of speech on campus for both faculty and students, while working to ensure an environment that fosters mutual respect in UofH's uniquely diverse environment.





STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT

# RESEARCH

#### Disaster Risk Reduction in Central Asia

Dr. Alex Altshuler is from the Faculty of Social Welfare and Health Sciences and a member of E-StAG that operates under the United Nations Office for Disaster Risk Reduction (UNDRR) where he contributes his expertise in inter-organizational partnerships, treatment of psychosocial aspects





of trauma, and inclusive resilience to 55 countries from Europe and Central Asia. To strengthen the capacity of science-policy ecosystems, current UNDRR focus is on Turkmenistan, Tajikistan and Bosnia and Herzegovina. Recently, UNDRR asked Dr. Altschuler to join a group of experts to better understand the systemic nature of the risks manifesting as a result of the conflict in Ukraine. The endproduct will highlight networked systemic risks associated with the conflict, and potential areas of tipping points for increasing or decreasing risks.

## Lead Contributor on Global Warming

Dr. Shlomit Paz heads the Department of Geography and Environmental Studies, As

# contributor to the Human Health section of the IPCC Special Report on Global Warming of 1.5°C,

reviewer of the UN Adaptation Gap Report, and Coordinating Lead Author of the Health chapter, MedECC Report (2020), Paz brings her research on human health impacts of climate change, with special attention to the influences on the transmission of vectorborne diseases at regional and global levels.

400 international contracts 700 study abroad students 450 advanced degree students 400 courses in English	Students from 80 countries 35% NA 26% EU+Russia 28% Asia 8% Africa 3% South America
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# PUBLIC ENGAGEMENT This is My Earth

## This is My Earth is a non-profit, international environmental organization founded in 2016 to offer every citizen of the world an opportunity to protect biodiversity for as little as \$1 a year.

Founded by Prof. Uri Shanas of the Faculty of Natural Sciences, this global, transparent, and democratic platform allows anyone and everyone to aid in preserving biodiversity.

#### Responsible Research and Innovation

A team of interdisciplinary UofH researchers, including Dr. Alan Hartman, Dr. Itai Beeri, Dr. Donatella Casalah Mashiah, and Prof. Eran Vigoda Gadot, is partnering with 12 organizations

as part of the SeeRRI Hub. Funded by the European Union Horizon 2020 programme, they are developing a framework for integrating the principles of Responsible Research and Innovation (RRI) into regional Smart Specialization policy to ensure that research and innovation activities are based on a responsible mindset.

# LEARNING AND STUDENTS **Gathering Next Gen Profs across** Israel

Over recent years, several MA programs in Natural Resource and Environmental Management have opened in Israel. A generous grant from Yad HaNadiv allowsstudents across the country to participate in a exclusive program in which international lecturers lead seminars, intensives, and participants take part in international workshops.

# Regulation Of Embryonic Development Lab (RED)

Daniel Goloe (Ghana) and Prashant Tewari (India) are two international MSc students in the Regulation Of Embryonic Development lab (RED) directed by Prof. Smadar Ben-Tabou de-Leon. Their investigation of biomineralization in the sea urchin embryo inspires the development of new approaches for bone regeneration and teeth remineralization. This important research has strong implications on the expected effect of global warming and ocean acidification on marine calcifies such as reef

building corals. Both students plan to return to their home countries to contribute, as Goloe says, "I've been an advocate of SDGs since my NGO days working to drive these goals back in Ghana. My vision is to extend the knowledge acquired from the lab to impact the academic and industry scientific research sector in Ghana."

# **OPERATIONS**

# New Partnership

UofH and the University of Zayed of the United Arab Emirates signed an agreement for academic cooperation in 2021, which will focus on joint research and faculty and student exchange. The two universities share academic knowledge in a variety of fields, including marine sciences, education, natural resource management, and will conduct joint research projects in these fields.

**SDG REPORT: WORKING TOWARDS THE UN'S SUSTAINABLE DEVELOPMENT GOALS** Division of Innovation & Sustainability and the Younes and Soraya Nazarian Library The University of Haifa, Mount Carmel, Haifa 31905, Israel

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