



The Ariane de Rothschild Women Doctoral Program



*Academic excellence meets social responsibility:
A decade's review
2 0 0 9 - 2 0 1 9*



The Ariane de Rothschild Women Doctoral Program



*Academic excellence meets social
responsibility: A decade's review
2009-2019*

Published in
celebration of the 10th
anniversary of the
**Ariane de Rothschild
Women Doctoral
Program**

Writing & Editing
Shiri Gerson

Photography
**Eran Lam, Lens!
Productions**

Photograph on page 100
© **Pez Hejduk, Vienna**

Production & Design
Norbert Design

Contents

Greetings from Baroness Ariane de Rothschild	6
The Edmond de Rothschild Foundation	8
The Ariane de Rothschild Women Doctoral Program	10
Facts & Figures	12
A personal message from the Program Director	14
The Hebrew University of Jerusalem	
A letter from the president	16
Current participants	18
Graduates	40
Technion-Israel Institute of Technology	
A letter from the president	48
Current participants	50
Graduates	80
Tel Aviv University	
A letter from the president	84
Current participants	86
Weizmann Institute of Science	
A letter from the president	112
Current participants	114
Ben-Gurion University of the Negev	
A letter from the president	130
Current participants	132
Index of program participants (2009-2019)	140



Baroness Ariane de Rothschild

Greetings from Baroness Ariane de Rothschild

A commitment to solidarity, social responsibility, and the advancement of knowledge has shaped our family's unique philanthropic tradition, and inspired our call to co-create the future. Our global network of Foundations works to ensure this vision translates into impactful achievements in the arts, entrepreneurship, science, and education.

Reflecting these values, the Ariane de Rothschild Women Doctoral Program, a key initiative of the Edmond de Rothschild Foundation (Israel), promotes excellence in academic research and education among talented women scientists and scholars. It not only enables them to focus on research that expands the boundaries of human knowledge, but also encourages them to engage in activities that benefit wide circles, thus becoming true role models for Israeli society.

Entering its tenth year, the program redresses the continued under-representation of women from diverse backgrounds in Israeli higher education and enhances their academic standing in a variety of fields. Scholarship recipients are chosen on the basis of their academic accomplishments and determination to pursue their research in a global society, where outdated gender stereotypes perpetuate an unfounded incompatibility between a woman's personal responsibilities and her research and teaching. The program dispels these stereotypes and provides a greater number of talented female scholars with the opportunity and support to succeed in academia.

The singularity of the program lies in its dual undertaking, to promote women and social responsibility in academia and the Israeli society. We believe that alleviating some financial constraints will empower brilliant female doctoral students to devote themselves to their research and fully unleash their unique contribution to academia and to Israel. Participants also give back to society throughout their scholarship, by engaging in volunteering educational activities to benefit underprivileged communities and inspire them to realize their ambitions.

I would like to congratulate the 77 fellows, both current students and graduates, whose far-reaching research and educational activities constitute an enduring contribution to bettering our world.



**Baron Edmond
de Rothschild**

The Edmond de Rothschild Foundation (IL)

The Edmond de Rothschild Foundation (IL) works to create an inclusive and collaborative Israeli society by promoting excellence, diversity, and leadership through higher education. Operating within the framework of the international network of the Edmond de Rothschild Foundations worldwide, we continue a legacy of philanthropic innovation, investing in change agents, and promoting a pioneering spirit.

The Foundation initiates dozens of innovative projects throughout Israel, aimed at reducing social gaps and fostering young leadership.

The Foundation's efforts to ensure higher education for as many communities as possible, to foster innovative academic research, to engage

artists in social involvement, to invest in groundbreaking economic and social models, and to nurture a young and committed leadership, affect the lives of tens of thousands of people and shape the future generation of Israel's pioneers and initiators.

To realize its vision and expand its impact on Israeli society, the Edmond de Rothschild Foundation is active in five areas:

Ensuring access to and success in higher education, towards narrowing the gaps in Israeli society, by advancing social mobility among young people from peripheral populations through the acquisition of higher education and its translation into commensurate employment.

Academic excellence, towards fostering the next generation of researchers, furthering innovative research, and contributing to the development of

professional standards and excellence in philanthropy.

The arts, towards promoting social impact and involvement through art, cultivating excellence, and upholding the Rothschild family's enduring tradition of supporting the arts.

Impact entrepreneurship, towards creating a measurable business model and encouraging the flow of new funds which would address social and environmental needs.

Leadership, towards establishing a reserve of young leaders, who will integrate into positions of influence in Israeli society and act to promote social issues.

The Ariane de Rothschild Women Doctoral Program

Founded on Baroness Ariane de Rothschild’s vision of furthering gender equality around the world, this unique program aspires to advance outstanding women from diverse backgrounds to key positions in Israeli academia and society. It does so by supporting talented and motivated female PhD students in Israel’s leading institutions of higher education, for each of whom the program-funded scholarship constitutes a definitive step towards completing her degree. The scholarships are intended to enable their recipients, who include women supporting their own families, to focus on their studies and research, en route to realizing their full potential—professionally as well as personally.

Inaugurated in 2009 at The Hebrew University of Jerusalem, the program has since grown to include the Technion—Israel Institute of Technology, Tel Aviv University, the Weizmann Institute of Science, and Ben-Gurion University of the Negev. Recipients, who demonstrate excellence in their academic achievements, represent Israel’s diverse communities, and are engaged in social activity in their community, are selected by a committee chaired by a senior member of the university’s leadership, together with the Edmond de Rothschild Foundation and with its approval.

Each year, four new scholarships are awarded to female students in each participating institution. Every participant receives a four-year scholarship, pursuant to her academic and research progress. It includes tuition, living expenses, and a one-time grant for participating in any international academic

activity that will advance the research, in the amount of 400,000 NIS (about \$110,000). In addition, the Foundation has developed a holistic program for the participants, encompassing professional training and development opportunities, workshops, and social activities.

Throughout the course of her studies, each fellow is required to engage in meaningful educational activities in her community, thus providing its young women and men with role models for excellence and giving to the community.

The program’s operations are led by a steering committee which is composed of representatives of the recipients and the Foundation.

In marking the program’s 10th anniversary, this book presents the 49 current fellows, as of September 2019, alongside a highlight of the research and career of the program’s 28 graduates.



Fact & Figures

The program grants scholarships to female PhD students representing diverse communities, including Arab society (22%), Haredi and religious society (11%), as well as other communities, including new immigrants, women with disabilities, and communities in the social-geographic periphery.

The program was established in **2009** at the Hebrew University of Jerusalem, growing over the years to four additional academic institutions.

From four active scholars in 2009 to 49 in 2019: Throughout its years of operation, **77** scholars participated in the program.

Current program participants:

11 - at The Hebrew University of Jerusalem

15 - at the Technion – Israel Institute of Technology

12 - at Tel Aviv University

7 - at the Weizmann Institute of Science

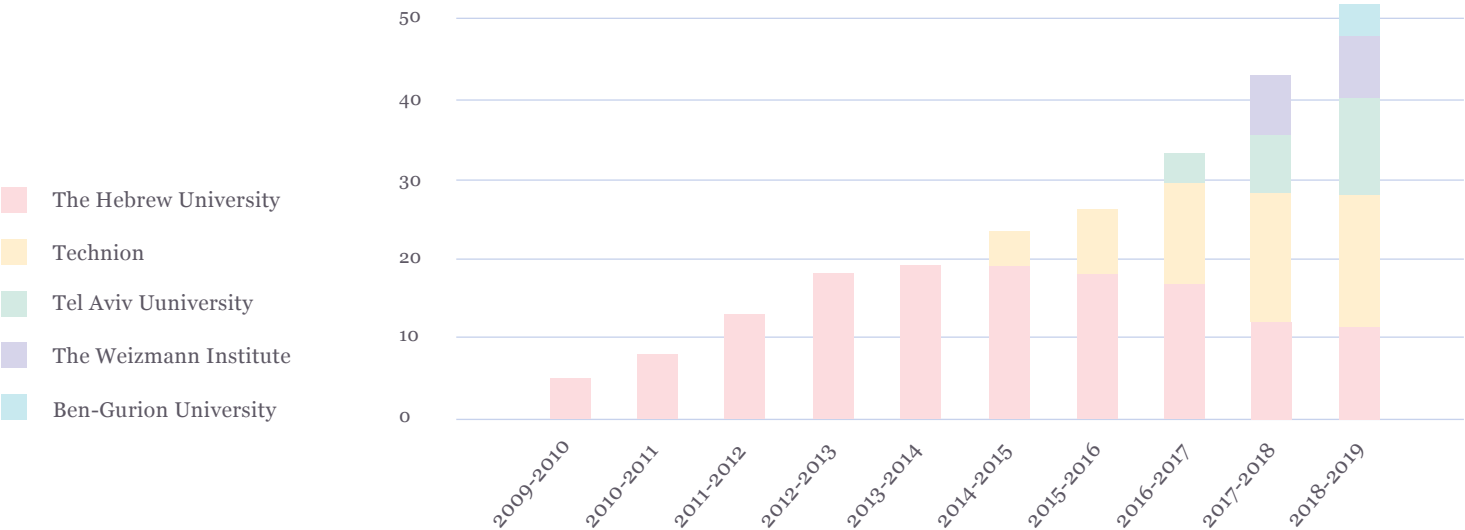
4 - at Ben-Gurion University of the Negev

93% of all program participants throughout the years completed the program.

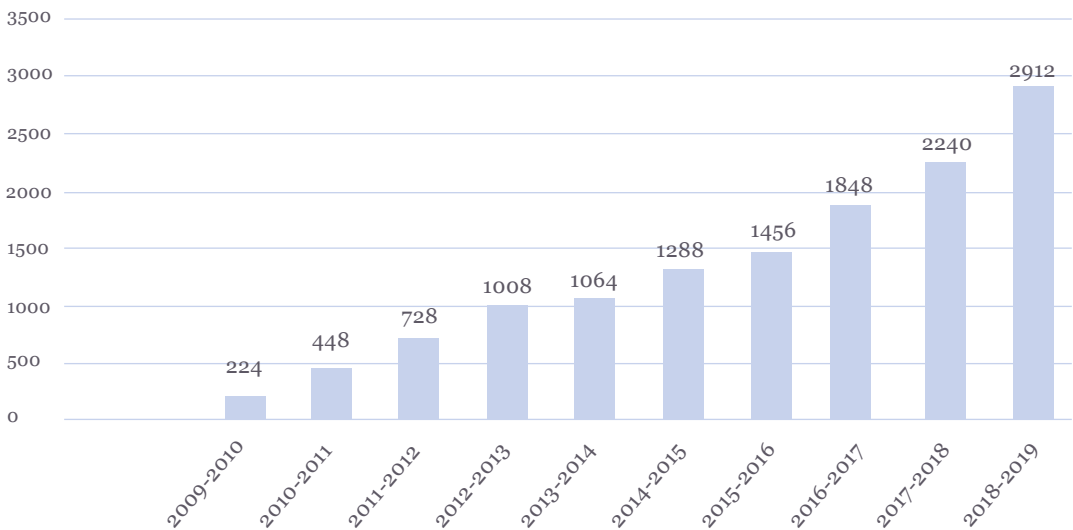
Contributing to society: Annually, program participants engage in over **2,900 hours** of community outreach in the area of education.

Of the program's **28 graduates, 16** are in the academia, including 12 postdoctoral researchers; **7** work in the industry; and **5** work in the public sector.

Program Growth



Growth in Volunteering Hours





Vardit Gilor
Program Director

Dear Students and Graduates,

The Ariane de Rothschild Women Doctoral Program is a one-of-its-kind initiative. You are part of an all-women cadre, brilliant scholars from diverse backgrounds, who are pursuing doctoral research in Israel's leading institutions of higher education, and at the same time — building your own personal lives. It's inspiring to see how passionate you all are about advancing new discoveries in your fields of research and about supporting underprivileged communities through volunteering work — being role models who have the potential to make an abiding impact on academia and society in Israel.

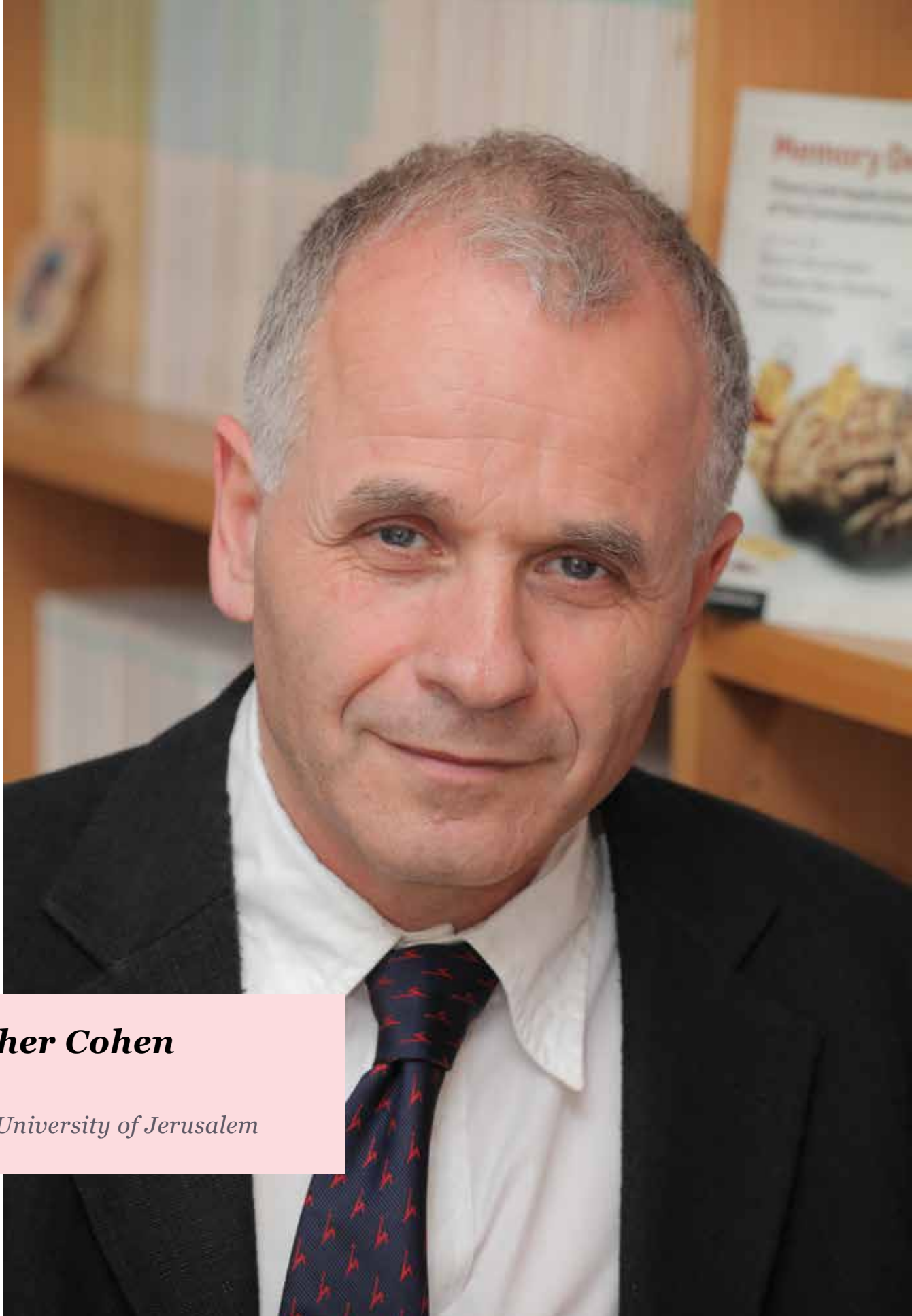
During the past year, our program has grown not only in size, but also in the scope of its activities, offering a unique holistic framework that addresses your needs. Together, we are building the program's community, which fosters your development, facilitates shared and mutual learning, and supports and accompanies each member on her journey to success.

A new initiative led by the Foundation is the program's steering committee, launched in 2018. It aims to strengthen the partnership between the Foundation and the fellows and advance it to the next level: based on the participants' unique perspectives and talents and the Foundation's expertise and experience, the committee works to refine the program's overall offerings and tailor it to participants' needs, their professional and personal growth.

Serving as the Foundation's program director since 2015, I have been privileged to work with you, learn together with you, and take part in a wonderful process of growth and empowerment that is ever-evolving.

And on a personal note: I am proud of each and every one of you, students and graduates; of your accomplishments, personal growth, and contributions to society. I am confident that your profound dedication to the pursuit of excellence will be reflected in lasting contributions to society on every level. You are among Israel's new pioneers.

Vardit Gilor
Program Director



Prof. Asher Cohen

President

The Hebrew University of Jerusalem

I feel privileged to extend my congratulations to the Ariane de Rothschild Women Doctoral Program in the Hebrew University on its 10th anniversary, for which this book, documenting many of the personal stories and the research projects, is being issued.

The Ariane de Rothschild Women Doctoral Program is a truly innovative program, providing scholarship support to excellent female doctoral students of the Hebrew University in all fields. These Fellowships allow outstanding doctoral students to conduct their research, use their analytical skills to examine challenges people face everywhere and help to find solutions for them. The support given to these outstanding students by the Ariane de Rothschild Program is critical and provides them with an opportunity to research while using their extensive historical knowledge and background, often incorporating multidisciplinary approaches, to advance and create groundbreaking, sustainable solutions for essential issues.

The Hebrew University greatly appreciates this empowering initiative and with its support, I am confident these doctoral candidates will complete their research, earn their degrees, and contribute to the world with the results of their work.

Sincerely,

Prof. Asher Cohen

President

The Hebrew University of Jerusalem

Nour Kardosh



School of Education

*Research Field:
Cognition and emotion*

*PhD Advisor:
Prof. Nilly Mor*

Depression is associated with a range of emotional, cognitive, and behavioral symptoms, including excessive negative mood and decreased interest or pleasure in enjoyable activities. Individuals with depressive disorders also tend to display negative biases in attention, memory, and interpretation; for example, they retrieve negative memories more easily than positive ones. These cognitive biases play an important role in the onset and recurrence of depressive episodes.

In her research, Nour Kardosh explores information-processing biases of positive

stimuli and their effect on emotional regulation in depression. She seeks to create a model that integrates the different cognitive biases and to develop practical paradigms that can be integrated into cognitive behavioral therapy for depression.

Nour was born in Nazareth, where she attended the Salvatorian sisters' school. She studied psychology and special education for a BSc degree at the University of Haifa, and worked at the Tirat Carmel Mental Health Center and at a boarding school for children with emotional and behavioral disorders.

Completing a master's degree in clinical and educational psychology at The Hebrew University, she continued there to her PhD.

In parallel, she is highly active in her academic department, supporting the absorption of Arab students in the university and in the program, serving as a program coordinator, and counseling the master's degree Arab students. Nour also volunteers regularly at Alsiwar, an organization that supports Arab women throughout Israel and provides aid to victims of sexual assault.

Pe'era Pash



Faculty of Dental Medicine

Research Field: Epigenetics, oocyte aging

PhD Advisors: Dr. Michael Klutstein and Prof. Gilad Bachrach

Demographic studies indicate that fertility rates are falling in many countries, often due to delayed childbearing – and the age-associated decline in female fertility. In her research, Pe'era Pash is examining epigenetic mechanisms that affect key proteins in the nucleus, in turn, causing the egg cells to divide incorrectly during their aging. Epigenetics addresses changes in the gene expression that do not involve changes to the underlying DNA sequence. While they are a regular and natural occurrence, epigenetic changes may also be influenced by several factors, including age.

Pe'era grew up in Efrat and studied at Ulpanat Talia in Jerusalem, a religious high-school for outstanding girls. At the time, she also

undertook her bachelor's degree studies in psychology and communications at the Open University. Later, she completed a year of national service at a boarding school for at-risk girls.

In her master's degree, she transferred to a new field and institution, studying microbiology at The Hebrew University. She is now on the direct PhD track.

Pe'era and her husband, together with their young son, live in Tzur Hadassa, near Jerusalem. She volunteers in Academy for Life, in the framework of the Bat Ami Project. Working with Haredi female students with a background of past learning disabilities, she reinforces their learning and helps them meet the required academic standards.

Olga Pasitselska

Faculty of Social Sciences

Research Field: Political communication

*PhD Advisor:
Dr. Christian Baden*

Olga Pasitselska was born and raised in Ukraine, where she studied editing, publishing and Ukrainian and Russian linguistics at the Oles' Honchar Dnipro National University. She received her bachelor's degree, *magna cum laude*, in 2013, and worked as a journalist. In 2014, she made Aliya by herself, joining an eight-month Ulpan in Kibbutz Shoval in the Negev, where she studied Hebrew in preparation for her academic studies in Israel.

Olga received her master's degree, *magna cum laude*, from The Hebrew University's Department of Communication and Journalism, in 2017. Subsequently, she started

her PhD research, which addresses the role of identity in the reception of ideological narratives in Russian-Ukrainian conflict among various audiences in Ukraine. Looking at the communication process from the audience's perspective, the study aims to understand how personal experiences, strategic frames and shared cultural knowledge contribute to adoption or rejection, interpretation or renegotiation of propagandistic media narratives, and subsequently affect the audience's conflict perceptions.

Olga is married and lives in Yaffo. She volunteers at the Al-Mustaqbal school in Yaffo through the "Shiur Acher"

organization, helping youths in grades 11 and 12 in their English-language studies. In addition, she has participated in a special campaign run by the Israel Cancer Association, to promote awareness of sun damages among children.



Nadine Soudah

Faculty of Science

*Research Field:
Biochemistry*

*PhD Advisor:
Prof. David Engelberg*

Nadine Soudah was born and raised in Eastern Jerusalem, where she lives today with her family. She studied in a German Christian private school, focusing on science – but also learning English and German. Seeking to study at The Hebrew University, she enrolled in a pre-academic program to reinforce her knowledge of Hebrew, studying together with diverse peers, among them, new immigrants – and experiencing a multi-cultural environment for the first time.

She excelled in her studies and started her undergraduate degree studies in biology, and went on to receive an MSc degree in biomedical sciences with honors.

Since 2018, she has conducted her doctoral research on the mechanisms of activation of key mutant enzymes, termed ERKs, which belong to the MAP kinase cascade, found mutated in 90% of cancer patients. Her goal is to decipher the role of the final protein in the enzyme's

“chain reaction,” which may also provide a better understanding of cancer.

Nadine engages in multiple volunteer activities: She works with children in the church; is active in the Kids for Peace international organization, which brings together Muslim, Christian, and Jewish youths for bi-weekly meetings; and in the Focolare Movement, which aims to contribute to building a more united world, in which people value and respect diversity.

Anna Holzer-Kawalko



Faculty of Humanities

Research Field: Jewish cultural property after 1945

*PhD Advisor:
Prof. Yfaat Weiss*

Born and raised in Poland, Anna Holzer-Kawalko received her BA degree from the University of Warsaw in 2012. That same year, she made Aliya and undertook master's degree studies at The Hebrew University, completing them, *summa cum laude*, in 2015. Her thesis addressed German material heritage and various processes of nation building in Lower Silesia (Poland) after World War II.

Her PhD work is devoted to one of the most ambiguous and little-known chapters of postwar Jewish reconstruction, in the wake of the unprecedented Nazi plunder of Jewish libraries and archives. In studying the status of German-Jewish cultural property in Czechoslovakia after 1945, she aims to illuminate the unique history of the looted documents – evacuated,

post-WWII, to various castles in Bohemia and Moravia, Ghetto Theresienstadt, and the Jewish Museum in Prague. Her research is generating a historical analysis of the multiple agendas guiding postwar restitution efforts, the complex relations between Jewish communities in Europe and Jewish people in Palestine/Israel, and the role of cultural property in nation-building processes after 1945.

In the past year, she spent six months at the Simon Dubnow Institut für Jüdische Geschichte und Kultur in Germany, and has won a prize for her dissertation.

Anna lives in Jerusalem with her husband. She volunteers with the Foundation for the Benefit of the Holocaust Victims in Israel, offering weekly assistance to Holocaust survivors.



Mor Shlezinger

Faculty of Dental Medicine

Research Field: Dental microbiology

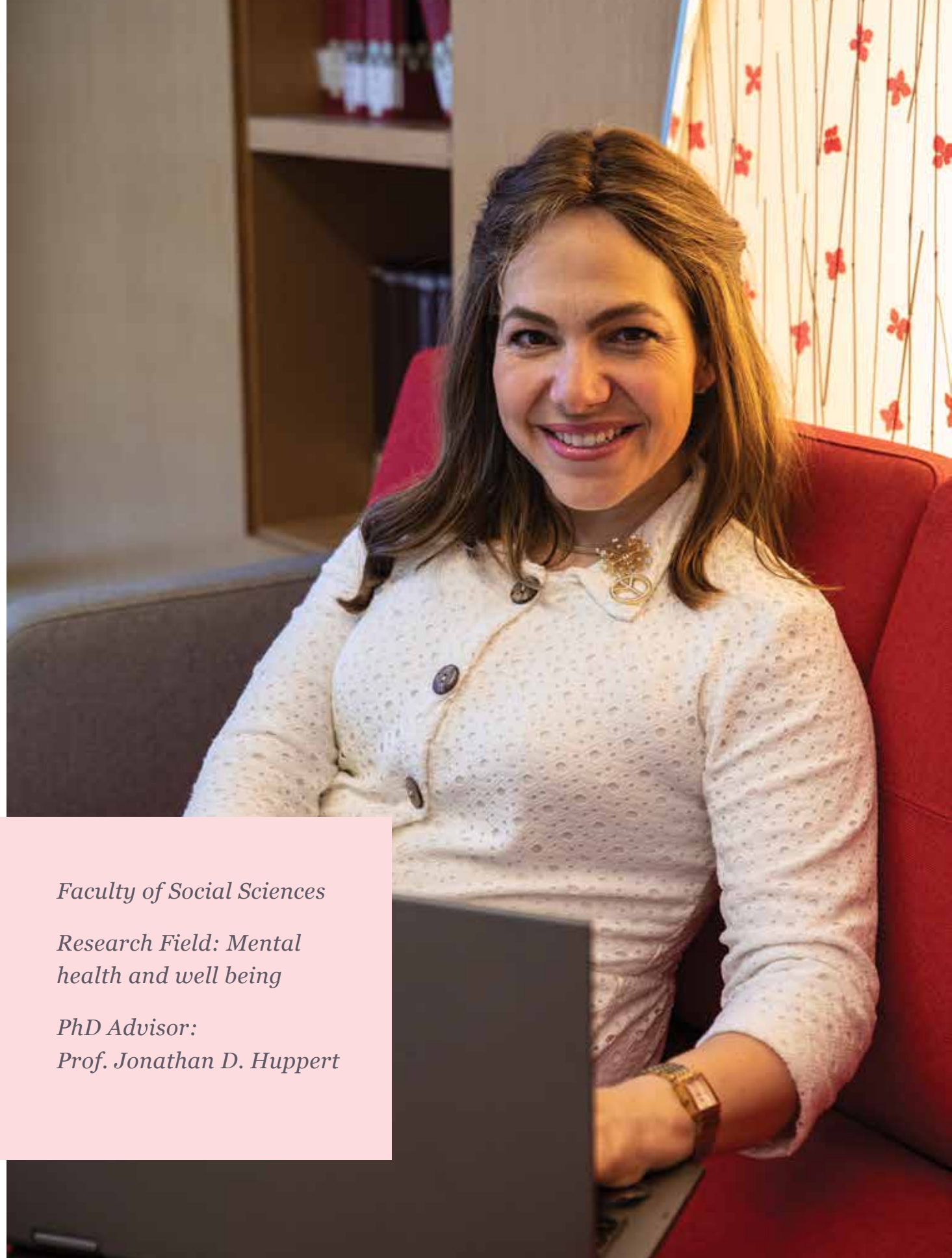
PhD Advisors: Prof. Nurit Beyth and Dr. Ronen Hazan

Mor Shlezinger grew up in Jerusalem and served as an education officer in the IDF. She studied dentistry and obtained her DMD degree from The Hebrew University. Later, deciding to also engage in research, she started a master's degree, which turned into a doctoral thesis on phage therapy – the therapeutic use of bacteria-infecting viruses (bacteriophages, or phages) to treat pathogenic bacterial infections.

Her research focuses on phage therapy against *Enterococcus faecalis*, a hard-to-target, antibiotics-resistant pathogen from root canal infections. She is working both in vitro and in vivo with an animal model, and hopes to lay the basis for translational research and possible clinical applications to promote improved patient treatment.

As a volunteer in the city's Oral Hygiene Training Clinic of the SHALVA National Center, the Israel Association for the Care and Inclusion of Persons with Disabilities, Mor promotes oral health education for mentally and physically challenged children and youths, in the age range of three months to 21 years. As part of her activities, she meets with the children's parents and supervisors and explains about their part in maintaining the children's oral hygiene.

Mor, who lives in Jerusalem with her husband and their two daughters, has painted ever since she can remember herself, and, throughout her research and volunteering activities, still finds time to pursue her hobby.



Dina Zalaznik

Faculty of Social Sciences

Research Field: Mental health and well being

*PhD Advisor:
Prof. Jonathan D. Huppert*

Dina Zalaznik grew up in a Haredi family in Jerusalem. After high school, she studied special education. She started her academic career when she was already a mother of three young children, studying psychology at the Open University, while also working in special education. She then went on to pursue a master's degree in clinical psychology at The Hebrew University.

In her research, Dina seeks to understand common component processes in psychotherapy. Her main interests are working alliance (the therapist – patient relationship) and attachment styles, and their relation to

the psychotherapeutic process and outcome, with focus on panic disorder. She also examines the relationship of those variables to outcome and retention in online CBT therapy for panic disorders and depression, and manages the research group's online depression treatment project.

Separately, in an effort to support Haredi students in academia, she established a special cultural workshop for Haredi MA students, which helps them cope with identity conflicts and cultural challenges. She also initiated, together with her PhD advisor, an annual academic conference on cultural issues

in psychology in Haredi society.

In her volunteer activities, she meets with at-risk high-school female Haredi students, helping them with their personal conflicts, with the aim of preventing dropout.

Dina lives with her husband and five children in Modi'in in Israel's central region.

Maayan Abargil



Faculty of Social Sciences

Research Field: Psychodynamic therapy

PhD Advisor: Dr. Orya Tishby

Maayan Abargil grew up in the town of Reut in central Israel. She volunteered for one year in a supportive housing facility for at-risk youths in Hadera before serving in the IDF as a welfare officer (she still serves on reserve military duty). She later travelled to India and Nepal, volunteering with TEVEL, an Israeli NGO that aims to create Israeli and Jewish leadership engaged in Tikkun Olam locally and globally.

Maayan, who was the first member of her family to

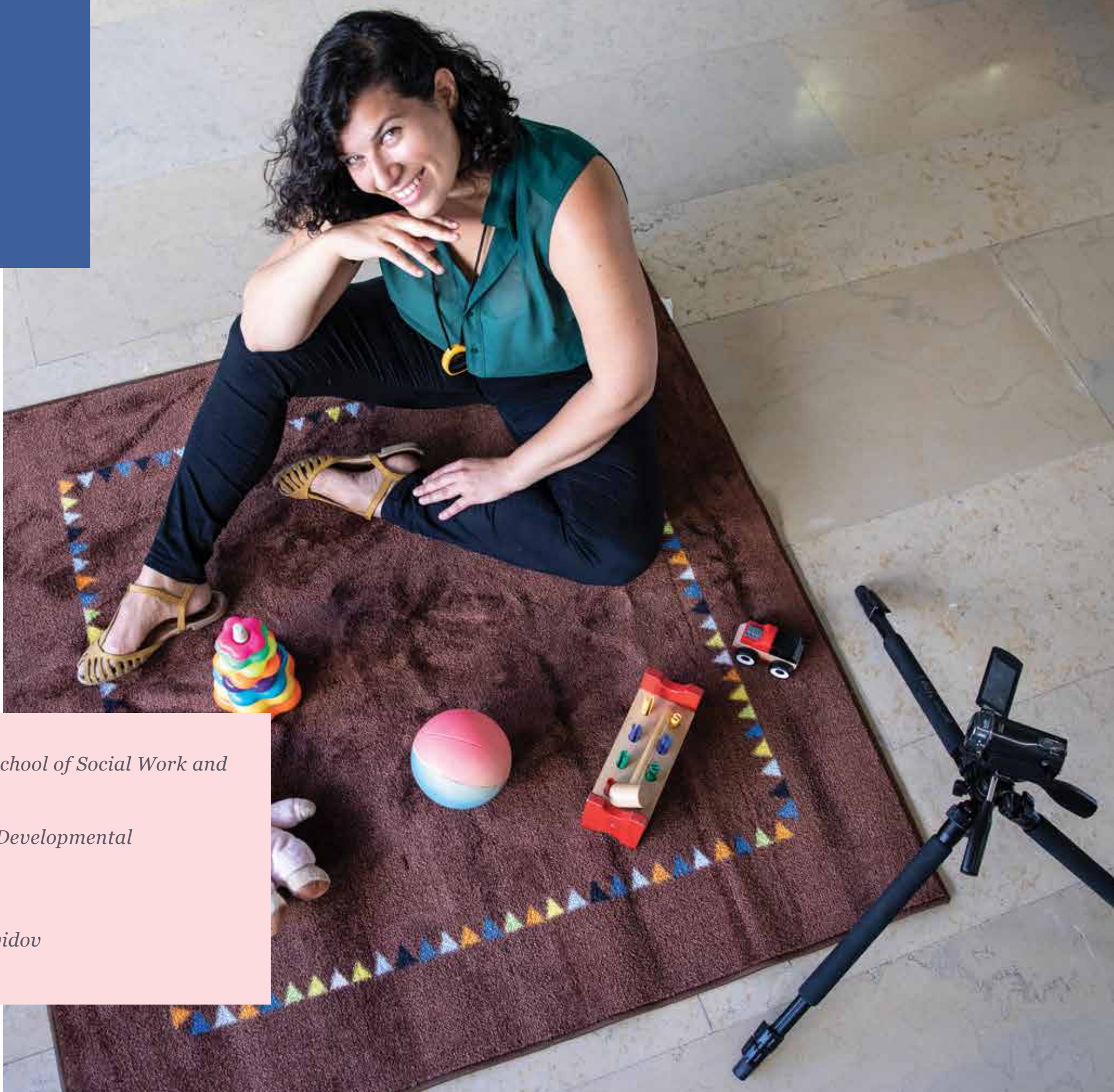
pursue an academic degree, studied psychology and cognition, in a special bachelor's-degree track for outstanding students at Ben-Gurion University. Excelling in her studies, she was accepted into the highly competitive master's degree program in clinical psychology at The Hebrew University, and later — to the direct PhD track.

Her doctoral research aims to dissect the effects of various parameters in psychodynamic therapy on the quality and

outcome of the therapeutic process. Her research has potential applied implications, including in improving therapists' training, towards enabling them to optimize the therapy according to specific patient characteristics.

Maayan, who currently resides in Tel Aviv, volunteered as a therapist in a child and family mental health station in Jerusalem, seeing a number of patients on a weekly basis. She currently volunteers with the Academy for Life program.

Yael Paz



Paul Baerwald School of Social Work and Social Welfare

Research Field: Developmental psychology

*PhD Advisor:
Dr. Maayan Davidov*

Yael Paz was raised in Atlit, a town in Israel's northern region, and served in an IDF excellence program. She received her bachelor's degree, *cum laude*, in psychobiology, and her master's degree, *summa cum laude*, in children's clinical psychology, both from The Hebrew University. Her outstanding academic achievements earned her several honors and awards, including multiple appearances on the Dean's List.

In her doctoral research, Yael addresses the rarely studied early development of empathy in infancy (during the first year of life), in an attempt to identify the developmental consequences of early individual differences in empathy among typically-developing and at-risk infants. For example, she is

investigating how empathy, or lack thereof, before the age of one year relates to subsequent helpful or aggressive behavior during the second or third year of life. The outcomes of her research have the potential to impact educational policies in both the public and private spheres, and provide new tools for earlier diagnosis of autism spectrum disorder.

In addition to her research, she is undergoing professional internship as a developmental psychologist.

Yael lives in Jerusalem and volunteers in the Academy for Life program. She mentors young, at-risk female students, bringing with her a unique mentoring approach, with the overall goal of helping them build a more advantageous life for themselves.



Leron Solomon-Khalifa

*Faculty of Dental
Medicine*

*Research Field:
Phage therapy and
microbiology*

*PhD Advisors:
Dr. Ronen Hazan and
Prof. Nurit Beyth*

Every year, drug-resistant bacterial infections kill hundreds of thousands of people around the world. In a new approach to the battle against harmful bacteria that infect humans, Leron Solomon-Khalifa aims to turn the tables on antibiotics-resistant bacteria, by infecting them with bacteriophages (or phages) –viruses that attack specific bacteria, but not humans. Her research provides an alternative to antibiotics, whose effectiveness is limited, for example, against the emergence of bacterial resistance.

Leron was born in Mumbai, India, where she completed a BSc in biotechnology and an MSc in biochemistry. In 2012, she realized a lifelong dream and made Aliyah on her own. She studied Hebrew at an Ulpan in Jerusalem, where she met her husband – an immigrant from France. She later worked as a research scientist in an aqua-culture vaccination company, before undertaking her doctoral research at The Hebrew University.

In her research, Leron works to identify bacterium-specific bacteriophages, isolate them,

and provide the basis for novel drugs based on them. She played a key role in the Hadassah Medical Center team that conducted the first successful phage therapy on a human patient, in 2018.

Leron lives in Jerusalem with her husband and two children. She volunteers in the Academy for Life project, mentoring a young woman and helping her succeed to pass her entrance exam to the academia.



Kerem Wainer Katsir

Faculty of Mathematics and Sciences

Research Field: Genetics

PhD Advisor: Prof. Michal Linial

Each of the cells in the woman's body carries two X chromosomes. One of the two is inactivated during early development, to prevent females from having twice as many X-chromosome gene products as males, who possess a single copy of the X chromosome. This inactivation process is essential for ensuring functional cell physiology. While most genes from the inactivated X-chromosome are silenced, 15–25% are known to escape X-inactivation. Kerem Wainer Katsir examines the genes that escape X-inactivation.

Her research has evolved into addressing the challenges of single-cell genomics, one of the most recent and exciting research fields of molecular biology, and has implications for medical research, as it is linked to various genetic disorders.

Kerem was raised in Zikhron Ya'akov in northern Israel. She holds a BSc in biology and an MSc in biology and bioinformatics, *magna cum laude*, from The Hebrew University, and pursues her PhD studies in the direct track at the University's Institute of Life Sciences.

She teaches a laboratory course to first-year biology students at the university and volunteers with the Hila program for at-risk youths. The program, operated by the Atid educational network under the auspices of the Ministry of Education, aims to enable school drop-outs to complete a 12-year school education.

Kerem is married and is the mother of young twins.

Graduates

Dr. Ester Abtew

2014

Biodegradable polymers for medicinal purposes

Works as a researcher in a start-up company in the field of advanced ("3D") battery technology.

Yael Barash Harman

2014

The environmental impact of multinational companies on emerging economies

Serves as director of Technologies and Renewable Energy in the Ministry of Energy's Office of the Chief Scientist.

Lital Belinko-Sabah

2014

Ladino studies

Currently at the final stage of her PhD studies. Works as a linguistic analyst at a high-tech company, and serves as a board member of the Center for Victims of Sexual Assault and a PhD student representative at the University's Senate.

Maayan Bonjak

2014

Structural symmetry of proteins

Currently at the final stage of her PhD studies.

Dr. Rawia Aburabia

2013

Colonized by the law: Personal status laws of Palestinian Bedouin women

Completed her postdoctoral research at the Leonard Davis Institute for International Relations; currently serves as a postdoctoral fellow and lecturer at Tel Aviv University.

Dr. Daria Feldman

2013

Novel fungal genes involved in breaking down plant cell walls and in detoxifying growth-inhibiting substances

Conducts postdoctoral research at The Hebrew University's Faculty of Agriculture, where she also serves as a teaching assistant.

Dr. Michelle Grunin

2013

Genetics, chemokines, and their relationship to a subset of white blood cells in age-related macular degeneration (AMD)

Currently, a postdoctoral researcher at Case Western Reserve University, studying complex genetics of AMD and Alzheimer's Disease.

Dr. Darya Tsvirkun

2013

Novel CT contrast agents for molecular imaging of cancer

Serves as a research assistant at Galmed Pharmaceuticals.

Graduates

Dr. Olga Aizenberg

2012

The behavioral and neural impact of different types of regularities on sentence processing in adequate and dyslexic readers

Serves as a psychometrician and a researcher at the Israel's National Institute for Testing and Evaluation.

Dr. Ibtisam Marey-Sarwan

2012

Context-informed perspectives to attachment and risk in Bedouin families in unrecognized villages in the Naqab

Completed her postdoctoral research at the Mofet Institute and currently serves as a lecturer on early childhood education at the Arab Academic College of Education in Haifa and the Sakhnin College for Teacher Education.

Dr. Lili Nimri

2012

Mechanisms linking obesity to altered metabolism in colon carcinogenesis

Completed her postdoctoral research at the Technion's Rappaport Faculty of Medicine and currently serves as a lecturer in the Department of Nutritional Sciences at Tel-Hai College.

Dr. Lior Reich Israeli

2012

Plasticity and stability in the 'visual' areas of the human blind brain

Studies medicine at the Hebrew University.

Dr. Keren Sasson

2012

Regional security orders in the developing world

Currently, a research fellow at the Leonard Davis Institute for International Relations and a research consultant at the Ministry of Defense and security institutions.

Dr. Ofra Brandes

2011

In-service leading computer science teachers during curricular changes

Currently a postdoctoral researcher at the Weizmann Institute of Science and serves as a lecturer in The Hebrew University's Teaching Certificate Program.

Dr. Liana Fayez Jaber

2011

The relationship between teachers and resources in mathematics education

Serves as a high-school principal in Beit Hanina, Jerusalem.

Dr. Malka Greenberg Raanan

2011

Gender, urban space and the everyday encounter between Palestinians and Israelis in Jerusalem

Completed her postdoctoral research at The Hebrew University and currently serves as a planning coordinator for urban renewal projects in Jerusalem.

Dr. Shiran Reichenberg

2011

The right to participation and care proceedings in youth court

Directs the Children's Rights Clinic at The Hebrew University's Faculty of Law Clinical Legal Education Center.

Graduates

Dr. Mazal Elnekave

2010

The immune response following DNA immunization of the skin

Lectures at Hadassah Academic College and teaches high-school biology at the Derech HaAvot school in Efrat.

Dr. Moran Israel

2010

Brain mechanism underlying the ability to switch from a parallel to a serial strategy

Heads a start-up company's research team and serves as scientific advisor to the Chief Scientist of the Ministry of Education.

Dr. Dina Tsybulsky

2010

The effect of educational trips to research labs on students' understanding of and attitude towards science

Completed her postdoctoral research at Tel Aviv University and currently serves as an Assistant Professor and head of the Biology Education research group in the Technion's Faculty of Education in Science and Technology.

Dr. Huda Abu-Much

2009

Translation of Emile Habibi's works into Hebrew

Completed her postdoctoral research at the Free University of Berlin and is teaching at the Open University's Department of Literature, Language and the Arts.

Dr. Chaya Keller

2009

Geometric graph theory

Completed her postdoctoral research at Ben-Gurion University. Currently serves as a Research Fellow at the Technion's Department of Mathematics.

Dr. Florina Uzefovsky

2009

The biological basis of human empathy

Completed her postdoctoral research at Cambridge University and currently serves as a senior lecturer in the Department of Psychology at Ben-Gurion University.





Prof. Peretz Lavie

President

Technion - Israel institute of Technology

Dear Friends,

On behalf of the Technion – Israel Institute of Technology, I am honored to congratulate and salute the Edmond de Rothschild Foundation on the 10th anniversary of the Ariane de Rothschild Women’s Doctoral Program.

As an academic institution that owes its very founding to the pan-European discrimination against Jews around the turn of the 20th century, the Technion is committed to the promotion of diversity and equal opportunity among all sectors of Israeli society. To this end, Technion administrations have dedicated special effort to increasing the number of women among our students, faculty and senior leadership. Attaining technological education is, still today, not a natural choice for many female high-school graduates; therefore, I am proud to head a technology- and exact sciences-oriented university featuring a female Senior Vice President, one female Technion Dean and three female faculty deans, one of whom, Prof. Marcelle Machluf, was chosen to light an Independence Day torch on Israel's 70th independence anniversary.

The Ariane de Rothschild Women’s Doctoral Program has played a vital role in furthering our shared mission to enable more outstanding female students to pursue an academic career. The monetary support the Ariane de Rothschild scholars receive through the Program, coupled with tailored seminars and workshops, ensure that these excellent young women never stop reaching higher and dreaming bigger.

I would like to take this opportunity to thank the Edmond de Rothschild Foundation for its continued dedication. I am looking forward to many more years of collaboration in this and other important endeavors.

Prof. Peretz Lavie

President

Technion - Israel institute of Technology

Margarita Beckerman



Faculty of Biomedical Engineering

Research field: Tissue engineering

*PhD Advisors: Prof. Shulamit Levenberg
and Prof. Emeritus Eddy Karnieli*

Margarita (Rita) Beckerman is developing a novel treatment for type 2 diabetes, in which the body develops insulin resistance, leading to hyperglycemia and severe multiple complications. She is investigating the use of engineered muscle tissue to restore insulin sensitivity, and has developed a successful model in mice, whereby a tissue sample is cultured in the lab and engineered to uptake larger quantities of glucose, then re-grafted to the donor to reduce blood-sugar levels.

Rita was born in Moldova and made Aliya with her family

as a child. She grew up in Migdal HaEmek, in Israel's northern district, where she also lives today. During her high-school years in ORT Rogozin, she participated in the Rashi Foundation's Katzir Scholarship Fund for young people from Israel's periphery. She served for two years in the IDF's Teleprocessing Corps, later earning her undergraduate degree in biotechnology engineering at the Ort Braude College in Karmiel.

At the end of her studies, Rita spent two years as a research assistant at Harvard-MIT's Health, Science and

Technology Department and returned to Israel to pursue her graduate degree. She enrolled in the Technion's master's degree program in biomedical engineering, later transferring to the direct PhD track.

Rita volunteers with an employment center in her home town, which provides information, guidance, and employment-preparation workshops for local youths.



Jozafina Haj

Faculty of Medicine

*Research field:
Chemotherapy and
cancer*

*PhD Advisor:
Prof. Yuval Shaked*

Chemotherapy is the most common treatment for cancer. Some years ago, it was found to also be associated with the development of metastases – the main cause of death in cancer patients. Jozafina Haj investigates the connection between chemotherapy in breast cancer and the development of lung metastases, with the aim of improving patients' therapy outcome. Specifically, she examines how chemotherapy affects the extracellular matrix in ways that may lead to the development of new tumors and metastases.

Jozafina, who grew up in the municipality of I'billin in Israel's northern district, has six siblings – three of whom pursued their BSc studies at the Technion in parallel. She received her BSc in medical sciences from the Technion, where she also earned her MSc, conducting research on tissue engineering for bone regeneration. After graduating, she worked as a technician in a hematology laboratory at Rambam Medical Center, where she developed a close relationship with cancer patients who went through chemotherapy

treatments. This led her to decide to pursue further research in cancer.

Jozafina lives with her husband in I'billin. She is active in a volunteer organization established by young people in her home town, to support children with cancer throughout Israel, and in its highly successful project of hair donations for wigs for patients.

Anat Litwin



*Faculty of Architecture and
Town Planning*

*Research Field:
Contemporary art and
urbanism*

*PhD Advisor:
Prof. Rachel Kallus*

An artist, curator, and researcher, Anat Litwin has initiated multiple international urban art platforms and residency programs that connect art and everyday urban living, and has presented her work in the field of social and community-based art in various cultural and academic venues in the U.S., Switzerland, Japan, and Brazil. She is the 2013 recipient of the Andy Warhol Curatorial Fellowship.

She graduated from Bezalel's Department of Visual Art and holds a master of fine arts degree from Hunter College, NYC. She founded and directed the HomeBase

project in 2006, which challenges the role artists play in shaping everyday urban living, and creates new cultural currencies of care. The project evolved into an immersive network of art collaborations in a decade-long journey, inhabiting buildings in changing urban neighborhoods in New York, Berlin, Jerusalem, and Saitama, where vacant residential spaces were transformed into temporary artistic homes for critical cross-cultural and counter-cultural exchange.

In her PhD research, Anat investigates the agency of Artistic Hosting in

the Neoliberal city, with HomeBase as her case study.

Anat lives in Givataim with her partner and their son. Volunteering with young artists through the Association of Plastic Artists, she leads a workshop addressing social, urban and community-based art, which provides both a theoretical framework and practical training related to the artistic and civil dimensions and possibilities of Artistic Hosting in the city.

Rawan Omar



Faculty of Chemical Engineering

Research field: Nanoscience and nanotechnology

PhD Advisor: Prof. Hossam Haick

Rawan Omar was born and raised in the village of Marja in central Israel, a part of the Zemer local council, where she also lives today. In high school, she attended a special program for gifted students, majoring in physics, chemistry, and electronics.

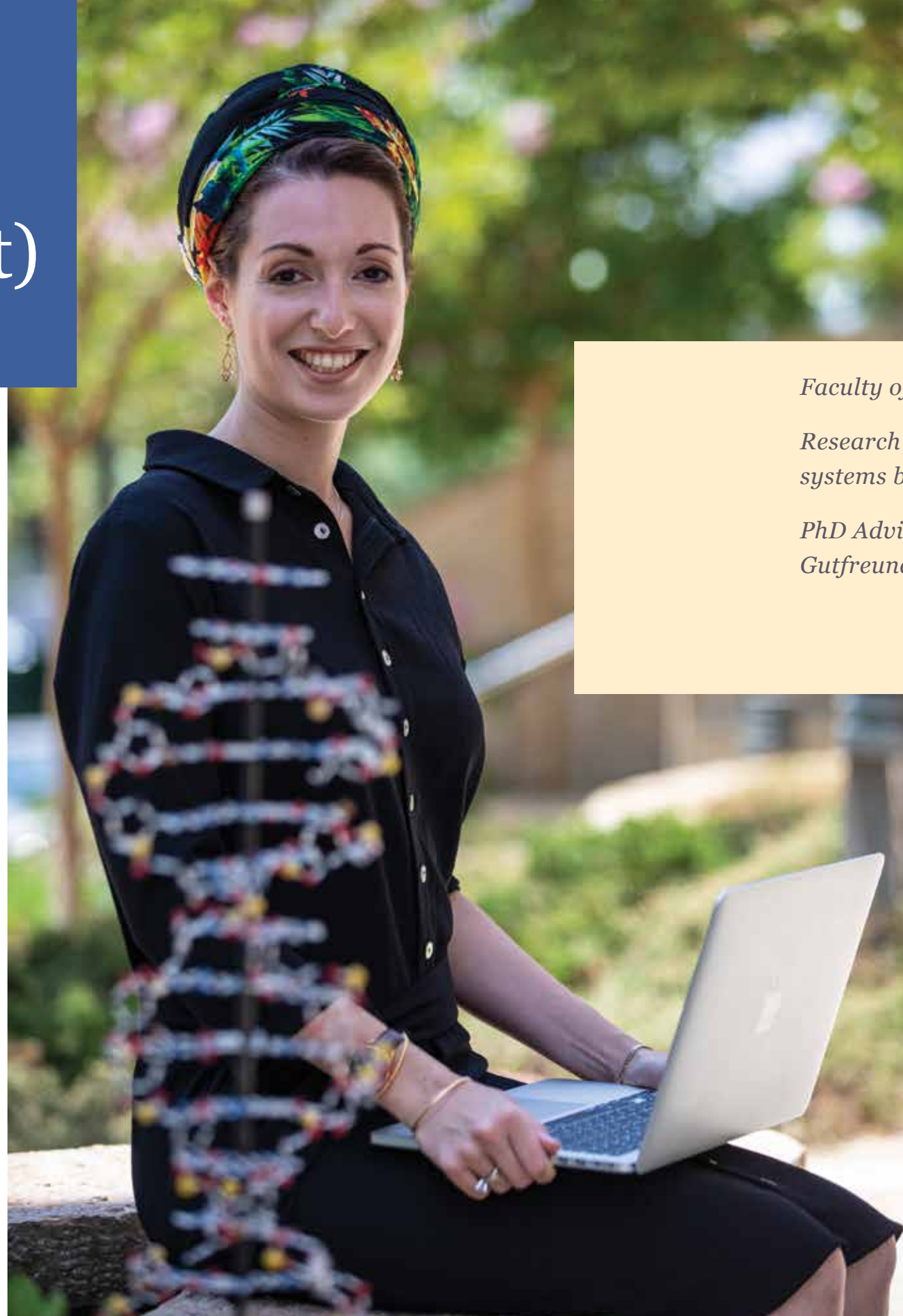
She studied biotechnology engineering at the Technion, receiving her BSc and MSc degrees *cum laude*. During her graduate studies, Rawan was a visiting researcher at the Leibniz University Hannover, Germany, and later worked as a chemical analyst at Teva Pharmaceutical Industries, until joining Prof. Haick's

group in 2019. In her PhD research, she is developing wearable sensors that conduct ongoing monitoring and early diagnosis of heart attacks.

Rawan is very active in fostering higher education in Arab society. After graduating from high school, together with other youths, she established an organization that initiated activities aiming to support higher education in her village, especially among young women. Later, as a student at the Technion, she wanted to do more to promote higher education in Arab society as a whole, so she co-founded and became head of

the academic unit of Alrowad-YASA (Young Arab Scientists Association), which seeks to create a strong scientific-technological periphery in Israel by supplementing the existing public Arab educational program. Rawan also manages an enrichment program for PhD students, which provides various soft skills and professional tools.

Rina (Greenblatt) Ben-El



Faculty of Biology

*Research field: Computational and
systems biology*

*PhD Advisor: Prof. Yael Mandel-
Gutfreund*

Seventy-five percent of the human genome does not encode for proteins, and therefore, its function has yet to be discovered. Some non-coding DNA is transcribed into long intergenic non-coding RNAs (lincRNAs) and recent evidence suggests that these play an important role in gene regulation. Rina (Greenblatt) Ben-El searches for the involvement of lincRNAs in the regulation of gene expression in embryonic stem cells. This is accomplished by employing computational approaches to analyze expression and correlation patterns between lincRNAs and transcription factors.

Born and raised in New Jersey, Rina studied in a religious high school and earned her undergraduate degree in biological science from Rutgers University. She first visited Israel through Taglit-Birthright, staying on for several months, during which she learned Hebrew and volunteered at the ALYN hospital in Jerusalem. In 2014, she made Aliya.

Rina earned her master's degree in developmental biology and genetics at the Technion's Faculty of Medicine. In her current research, she develops algorithms, executes statistical tests on large datasets, and

assesses "big data", with the hope of unravelling some of the biological mysteries that fascinate her.

Rina and her husband live in Haifa. She volunteers with Shiur Acher ("a different lesson"), a project which seeks to give middle- and high school-students equal opportunity by incorporating volunteers from various professional fields into the classroom. These interactions enable the students to familiarize themselves with different professions and gain self-confidence that they, too, can accomplish their own goals.



Daniele
Kulisch

*Faculty of Civil and Environmental
Engineering*

Research field: Civil engineering

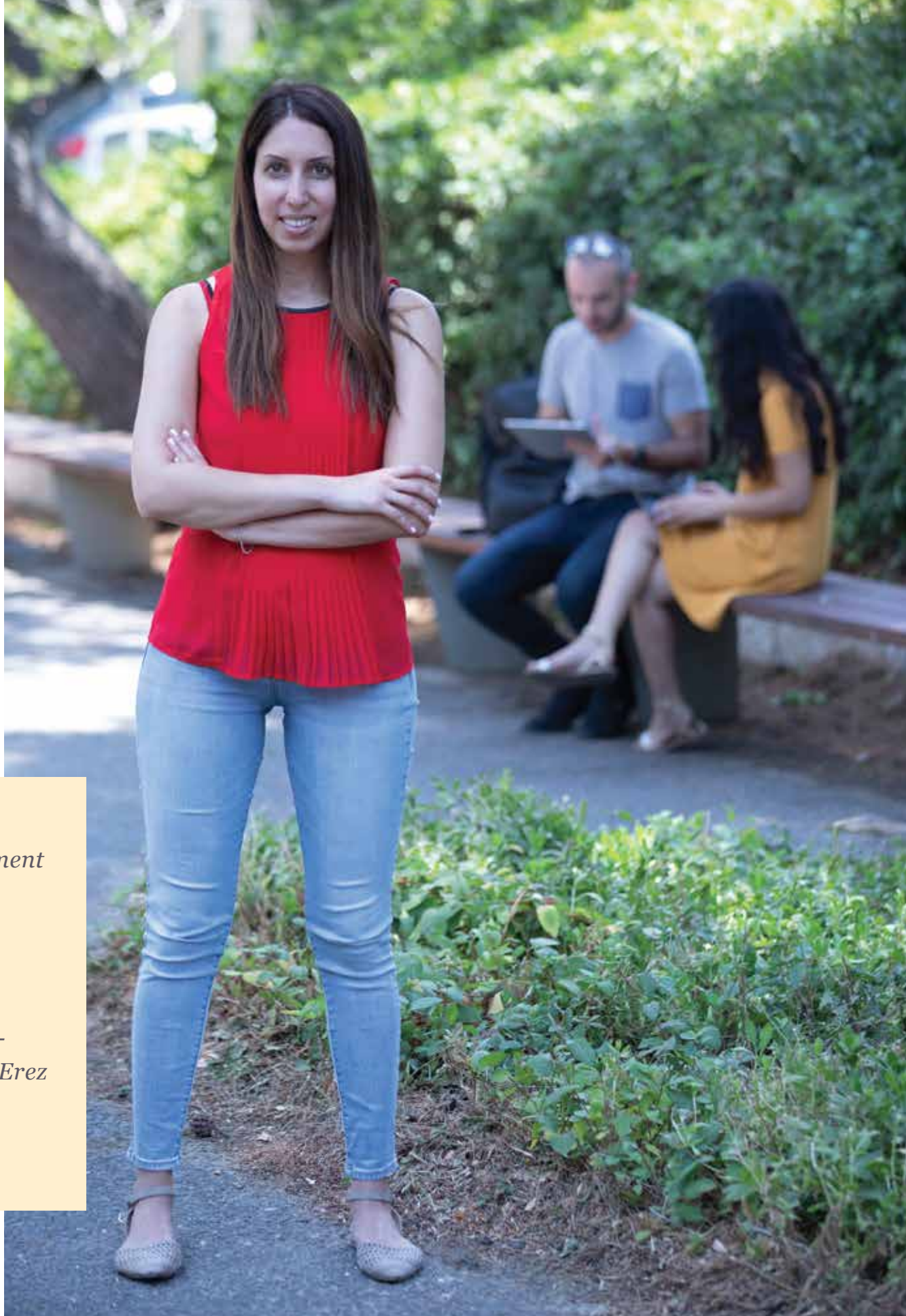
PhD Advisor: Prof. Amnon Katz

Daniele Kulisch was born in Curitiba, Brazil, into a family of civil engineers. Growing up, she was on the Habonim Dror youth movement and later earned her bachelor's degree in civil engineering at UFPR Universidade Federal do Parana. She made Aliya by herself in 2012, participated in an Ulpan program in Haifa, and a short time later, enrolled in a master's degree program at the Technion, graduating in 2015.

She then served as a project coordinator at the Standards Institution of Israel, while also teaching at the Afeka Tel Aviv Academic College of Engineering and the Sami Shamoon College of Engineering. Seeking to

combine a component of research into her activity, she returned to the Technion for her PhD, which centers on the reactivation potential of residual unhydrated cement in construction waste and its use in new concrete. Her research may lead to new ways of exploiting construction waste for cement, thus cutting on construction costs and protecting the environment.

Daniele lives in Ramat Gan with her husband, who is also from Brazil. She volunteers at the Alliance School in Haifa, assisting in English classes in the eighth and ninth grades, in both group and individual settings, in order to motivate the students and promote their learning.



Moran Lazar

*Faculty of Industrial
Engineering and Management*

*Research field:
Entrepreneurial teams*

*PhD Advisors:
Associate Prof. Ella Miron-
Spektor and Prof. Miriam Erez*

More than 90% of all entrepreneurial teams fail prematurely. Moran Lazar investigates the impact of team formation strategies on entrepreneurial outcomes, i.e., success or failure. She empirically explores the decision-making process of forming an entrepreneurial team – based on prior acquaintance, professional capacities, or the combination of both, and how these affect team performance in the initial stages. Her multidisciplinary research follows participants in various accelerators in Israel and abroad, and her findings may help create a structured

process of entrepreneurial team formation.

Moran was raised in Tirat Hacarmel, where she currently lives with her husband. She served as a psychotechnical diagnostician commander in the IDF, and earned her undergraduate degree in psychology, sociology, and anthropology at the University of Haifa, *magna cum laude*. She continued to a master's degree in organizational behavior at the Technion.

In addition to her PhD research, Moran is a research consultant at the Knowledge Center for Innovation and a research fellow at the Bronica

Entrepreneurship Center, both at the Technion. She also serves as a doctoral student representative at the Technion's Industrial Engineering and Management and Behavioral Science committees.

Moran, who is an active member of the Ariane de Rothschild Women Doctoral Program's steering committee, has also facilitated a women empowerment program at a community center and a human resources strategy building program for a non-profit organization, both supporting unprivileged populations in Israel.

Jenia Vinokur



Faculty of Material Science and Engineering

Research field: Organic electronics

PhD Advisor: Prof. Gitti L. Frey

Jenia Vinokur was born in Ukraine and made Aliya in her early childhood with her family, settling in Ma'ale Adumim, near Jerusalem. Her curiosity motivated her to learn home appliance repair and computer programming by herself, and develop a wide-ranging interest in science. She studied biotechnology at Ort College high school in Jerusalem and served in the IDF as a military-court clerk.

She earned a dual bachelor's degree, in materials engineering and chemistry, at the Technion, where she

continues on the direct PhD track. The lab she is a member of seeks to assemble organic and inorganic precursors into opto-electronically functional hybrid materials and interfaces for high-performance devices. Her research focuses on organic solar cells, which use light-absorbing organic molecules to produce electricity from sunlight.

Together with six other Israeli students, Jenia represented Israel at the 2019 Lindau Nobel Laureate Meetings, meeting 39 recipients of the Nobel Prize in Physics.

In her volunteering activities, she has partnered with a chemistry teacher, and together, they are building a new concept for the study of chemistry from a wide-angle and hands-on perspective, including visits to the Technion, lectures, and lab work.

Jenia, who lives with her husband and son in Haifa, is about to give birth to their second child.

Shlomit (Levy) David



Faculty of Biotechnology and Food Engineering

Research field: Food engineering

PhD Advisor: Prof. Uri Lesmes

Growing up in Jerusalem, Shlomit (Levy) David is the oldest of six children in a family that encourages academic excellence (currently, some of her younger siblings study engineering at the Technion). She attended the Horev religious high school for girls, excelling in mathematics and biotechnology, and completed a year of national service at an elementary school in Modi'in.

Next, she enrolled at the Technion, earning a bachelor's degree in biotechnology and food engineering. She continued to a master's degree in nano-science and nanotechnology.

In her PhD research, Shlomit examines the digestive fate of polysaccharide food additives. She focuses on carrageenans, a family of polysaccharides isolated from seaweeds, which has been

at the heart of considerable debate in recent years. While generally recognized as safe for human use, carrageenans affect the breaking down of food in the digestive process, and may have a part in inducing digestive-tract disorders. Shlomit is examining the effect of different carrageenans on the breakdown of food-derived proteins in the body, with the goal of re-engineering carrageenan molecules, towards preventing their potential deleterious health effects.

Shlomit lives with her husband and three children in Haifa. She is a teaching assistant at the Technion and volunteers with children and youths in various frameworks, coaching high schools students in need of assistance in mathematics for their Bagrut exam.



*Faculty of Chemical
Engineering*

*Research field:
Pattern formation in
nanoparticle systems*

*PhD Advisor:
Prof. Ofer Manor*

**Ekhlas
Homede
Abo Jabal**

Ekhlas Homede Abo Jabal was born in the village of Mashhad, in Israel's northern region. Her family – of whom she is the first to pursue an academic degree – had encouraged her to excel in her studies, and she attended a distant school, to ensure she received the best available education.

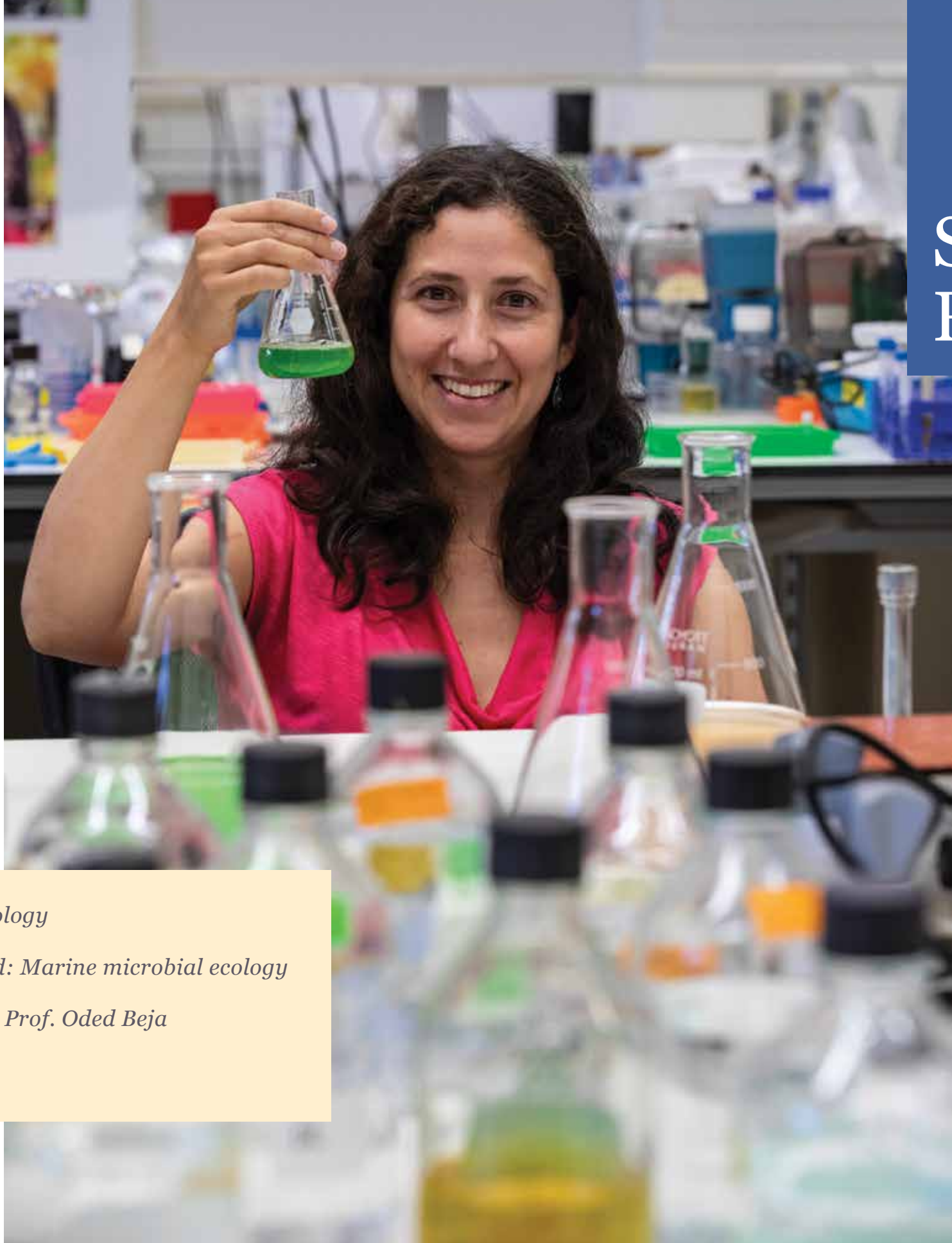
She earned her bachelor's and master's degrees in chemical engineering at the Technion. In her master's degree research, she conducted research that led to the development of a new and feasible printing method

of artificially intelligent sensor arrays based on gold nanoparticles with diverse applications, including disease diagnosis.

Currently conducting her PhD research at the Technion, Ekhlas investigates mechanisms of nanoparticle deposition. Nanoparticle deposition refers to the process of attaching nanoparticles to solid surfaces, which has various applications, including in electronic displays, sensors, coatings, and smart paints. These types of products require well-controlled

particle organization, as well as simple, cheap, and reproducible methods of fabrication.

Ekhlas, who lives with her husband and two young daughters in Haifa, co-initiated a volunteering project to help high-schoolers from her home town study mathematics and chemistry. Currently, she volunteers in the Tura'an community center, tutoring high-school girls in mathematics and chemistry.



Sheila Roitman

Faculty of Biology

Research field: Marine microbial ecology

PhD Advisor: Prof. Oded Beja

Phytoplankton form the basis of the aquatic food web and account for about 50% of all photosynthesis on Earth. Sheila Roitman studies environmental genomics of marine microbes, focusing in viruses that infect phytoplankton. These viruses can change the infected phytoplankton cell's metabolism, leading to changes in the water nutrient composition, thus affecting the entire ecosystem. She identified new viruses that affect their hosts' photosynthetic activity in her MSc degree research. In her PhD research, she uncovered novel viral families encoding proteins which can turn saturated fatty acids into unsaturated fatty acids. This finding suggests that viruses have a greater impact on the nutrient composition of the marine ecosystem than previously thought.

Additionally, these viral encoded proteins have extensive potential applications in biotechnology.

Sheila was born in Argentina, and made Aliya as a teenager through the Naale program, with her parents joining her in Israel a year later. She earned her BSc in agroecology and plant health and biotechnology at The Hebrew University's Faculty of Agriculture, as part of the Atidim for Industry program. She transferred to the Technion for her MSc degree, where she continues on her doctoral research.

In her volunteering activity, Sheila has worked for over four years with an underprivileged child, helping her to expand and improve her learning abilities.



Shir Toubiana

Faculty of Medicine

Research field: Human molecular genetics

PhD Advisors:

Prof. Sara Selig and

Prof. Karl Skorecki

Shir Toubiana was born in Petach Tikva, and was diagnosed with a genetic hearing impairment when she was one year old. Her disability spurred her to push herself forward, always try harder, and excel. In high school, she was the only girl in the physics track, played basketball, and painted; and in her military service, she taught cadets in the Junior Command Preparatory School in Haifa.

Debating whether to follow her passion and become a physician or to pursue her curiosity and become a scientist, Shir chose both and was accepted to the prestigious MD-PhD track. Completing the pre-clinical stage, she earned a BSc degree in medical sciences from the Technion and continues on the direct PhD track.

Her doctoral research focuses on telomeres – the regions at the end of chromosomes which regulate processes related to cell aging and protection from cancer. She investigates telomeres' epigenetic characteristics and focuses on mutations in DNMT3B, an enzyme which facilitates epigenetic modifications of the telomeric regions. DNMT3B malfunctions can lead to telomere dysfunction, resulting in accelerated aging; Shir was the first to successfully correct mutant DNMT3B, by editing the gene that generates this protein.

Shir lives in Haifa with her husband, and volunteers in mentoring and assisting disabled Technion students, while being an active member of the Ariane de Rothschild Women Doctoral Program's steering committee.

Hanan Abumanhal Masarweh

Faculty of Chemical Engineering

*Research field: Personalized cancer
nano-diagnostics*

PhD Advisor: Prof. Avi Schroeder

Nanoscience has significant potential to enable addressing as yet unsolved problems in many areas. Hanan

Abumanhal Masarweh employs nanotechnology to develop personalized medicine technologies. Her approach is to treat the supportive environment that surrounds the cancer cells within the tumor, applying combined treatment and targeting of the microenvironment as well as cancer cells – ultimately, to improve patient survival and quality of life. Her research focuses on nano-drug delivery systems that modulate the

tumor acidic environment and enhance the activity of chemotherapy in breast cancer.

Hanan was born in Umm al-Fahm. She pursued BSc and MSc studies in pharmacy at The Hebrew University's Excellence Program in Pharmaceutical Sciences, and was the only participant from Arab society in her cohort. She opted to gain practical experience and worked as a pharmacist for several months, then continued to doctoral studies in Prof. Avi Schroeder's Laboratory

for Targeted Drug Delivery and Personalized Medicine Technologies at the Technion, as part of the Nanoscience and Nanotechnology program.

Hanan, who is married, lives in Haifa, and volunteers in the Masar program, which aims to increase social responsibility and leadership skills among post-high-school youth from Arab society. She has been involved in various aspects of the program, and, in the coming year, plans to organize a visit at the Technion for the participants.

Maria Khoury

Faculty of Biomedical Engineering

Research field: Cardiovascular nanomedicine

PhD Advisor: Prof. Netanel Korin

Maria Khoury was born in Haifa. She attended the Sisters of Nazareth High School in Haifa, studying electronics and physics, and later enrolled in the Technion, earning her BSc and MSc in biomedical engineering.

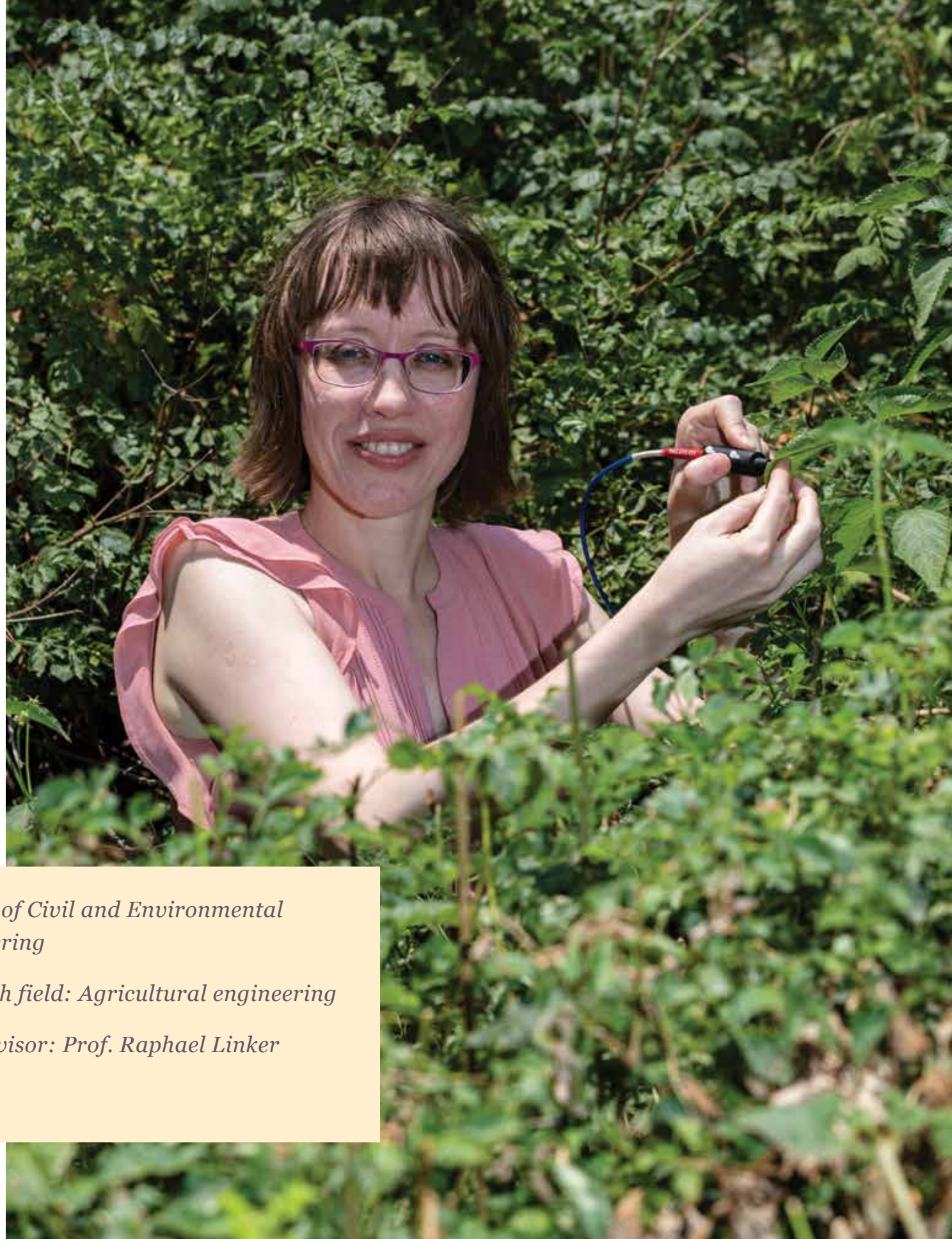
During her master's degree studies, she was the lead author in one article and took part in the preparation of three others, all published in leading scientific journals. Subsequently, she worked at the Technion's Faculty of Medicine for three years, in the field of embryonic stem cells.

For her PhD research, she joined Prof. Netanel Korin's lab, which studies engineering aspects of vascular biology with a focus on the interplay between hemodynamics,

vascular physiology, and transport phenomena in vascular diseases. Maria is developing a new approach for treating atherosclerosis, which consists of targeted nano-therapeutic carriers that deliver medication to areas of atherosclerosis in order to prevent blockages in arteries. She studies the engineering aspects of blood flow and examines the viability of directing nanoparticles carrying medication to their specific target.

Maria has one daughter and lives in Haifa, where she also volunteers at an Arab-Christian school. She tutors a group of pupils in mathematics, with the goal of reinforcing students with difficulties in the subject.





Faculty of Civil and Environmental Engineering

Research field: Agricultural engineering

PhD Advisor: Prof. Raphael Linker

Yevgeniya Orlova

Yevgeniya Orlova was born in Ukraine. At age 16, she became interested in her Jewish heritage and connection to Israel, and started learning Hebrew. Two years later, she decided to make Aliya on her own, settling in Kibbutz Yehiam.

She subsequently enrolled in the Technion's program in biotechnology in environmental engineering, earning a BSc. During this time, she also published her first academic article in a top-tier journal. She continued to MSc studies, while supporting herself and her mother, who joined her in Israel. Her distinguished academic

achievements earned her the President's and Dean's awards.

Accompanying her husband on his postdoctoral fellowship in Berkeley, California, Yevgeniya held a leadership position in a voluntary sustainability project established at the university's family housing. Upon their return to Israel, she began her doctoral research, in which she is developing an optically based means to analyze biophysical processes in growing apples. She is devising a non-destructive method to forecast the survival potential of early-stage fruits. Her method

will assist growers' decision-making processes with regards to chemical pruning, with the goal of optimizing fruit load and size distribution at harvest.

Yevgeniya lives with her husband and daughter in Kiryat Motzkin, near Haifa. She volunteers with the Technion's Unit for the Advancement of Students and its Students Association (TSA), tutoring Matlab programming.



Graduates

Dr. Nitzan Krinsky

2015

Synthetic cells as a therapeutic platform

R&D team manager at PEEL Therapeutics Israel.

Dr. Adi Hanuka

2014

Structure-based Laser-driven Optical Accelerators

Completed postdoctoral studies at the Technion and currently serves as a Research Associate at Stanford Linear Accelerator (SLAC), California.

Dr. Rotem Vishinkin

2014

Detection of tuberculosis from skin

A researcher at the Technion, a Horizon 2020 scientific project leader, and an Azrieli Startup MBA student.

Dr. Christine Warwar Damouny

2014

Development of Ni-based catalysts through a polymer assisted non-hydrolytic sol-gel route for the dry reforming of methane

A postdoctoral fellow at the Technion.

Neta Zalmanovich

2014

Electrochemical characterization of a micro-nanochannel interface device

Currently at the final stage of her PhD studies.



***Prof. Joseph Klafter****President**Tel Aviv University*

On behalf of Tel Aviv University, I would like to offer my most sincere thanks to the Foundation for its generous support of Israel's female doctoral students at Israeli universities, and in particular, since 2016, at Tel Aviv University.

Women have long been under-represented in senior academic positions in Israeli universities, an environment that for long has been dominated by men. The establishment of the **Ariane de Rothschild Women Doctoral Program** has been crucial to the success of talented women researchers, from all fields of study, in overcoming material disadvantage and achieving gender equality.

The Program has facilitated the enhancement of professional women as a strategic long-term goal, and has been essential for the advancement of higher education in Israel. Indeed, the Foundation's contribution not only endeavors to rectify the situation where proportionately fewer women enter academia, but also contributes to academic excellence, cultural diversity, productivity and the well-being of the nation.

We are grateful to the Foundation for its recognition of this high priority, and for its generosity that invests in the future of the State of Israel.

Sincerely,

Prof. Joseph Klafter

President

Tel Aviv University



Shira Bukchin

Faculty of Social Sciences

Research Field: Public policy – Sustainable Development

*PhD Advisor:
Dr. Dorit Kerret*

Shira Bukchin is a behavioral data analyst with a long-standing interest in agriculture, technological choices, environmental behavior, and sustainable development. Her PhD research addresses the relationships between the theoretical and practical assumptions of sustainability, environmental policy, and positive psychology.

Smallholder farmers, typically farming families, constitute the majority of the world's farmers and produce a significant share of global food. Most of them, however, do not use proven modern cultivation technologies that hold promise for a sustainable future. Shira

focuses on farmers in Senegal and Nepal, exploring the connection between their personal resources – such as goal-oriented hope, character strengths, and self-control – and the adoption of sustainable agricultural technologies. In the past, she had also participated in other agricultural and rural development projects in Ethiopia.

Shira, who grew up in Kadima, a town in Israel's central region, served as an armored corps instructor in the IDF. She holds an undergraduate degree in biology and a master's degree in public policy, both from Tel Aviv University.

At the university, Shira is a graduate-level teaching assistant in public policy courses. She also volunteers as a mentor to a graduate-degree student, as part of the Manna Program for Food Safety & Security.

Helena Roth



Faculty of Humanities

Research field: Archaeology

PhD Advisor: Prof. Yuval Gadot

Helena Roth was born in Moscow in the former Soviet Union, and as a young child, made Aliya with her mother. She studied painting and art from a young age, as well as science, and served in an Air Force intelligence unit.

Subsequently, working as a certified tour guide, she became interested in archaeology and decided to pursue the subject academically. She earned a bachelor's degree at the University of Haifa and a master's degree at Tel Aviv University in archaeology and the Ancient East.

Her PhD research focuses on economy and society in the northern Judean Highlands during the Intermediate and Middle Bronze Ages, and involves field work in excavations, as well as lab

investigations of pottery vessels in technological and typological perspectives. Her main goal is to reconstruct the social complexity of the region during the period between the mid-third and mid-second millennia BCE, and to better link archaeological finds and known historical events and processes, while shedding light on Canaanite cultural history.

She volunteers in the nonprofit Ratsei Hasimta ("The Alley Runners"), an athletic track and field club founded as a social project to empower youths. Helena works with several young women, helping and supporting them in their academic studies.

Helena and her husband, Itamar, live in Tel Aviv and are expecting their first child.

Maysoon Shibi



Faculty of Humanities

Research Field: Palestinian folk literature and Arabic prosody

PhD Advisor: Prof. Jeries Naim Khoury

Maysoon Shibi lives in the Arab town Tira, in Israel's central region, where she was born and raised. She studied biotechnology in high school but turned to a different direction in her academic studies, pursuing an undergraduate degree in English literature and Arabic language and literature at Tel Aviv University, while also completing a teaching certificate in English at the Beit Berl College.

Maysoon's interest in the study of Arabic language and literature led her to specialize in modern Arabic literature

in general, specifically in modern Arabic poetry, Arabic prosody in modern times, folk literature, and modern literary theories in her advanced degrees, also at Tel Aviv University. She wrote her master's degree thesis on the *rajaz* meter in modern Arabic poetry and is currently conducting PhD research on Arabic folk literature from a formalistic and a semiotic perspective.

Her research addresses Palestinian fairy-tales, a field with a paucity of research. Her focus is on poetic stanzas and magic statements, while

examining analytic models from the study of other nationalities' fairy-tales.

Maysoon teaches an introductory course on modern Arabic literature at the university. This year, as part of her volunteering activities, she initiated a competition on literature and general knowledge of Arab culture, which took place at her department at the university, with the participation 22 students from 11 high schools and an audience of 420 pupils and their teachers and principals.



Keren Taub

Sagol School of Neuroscience

Research field: Cognition and eye movements

PhD Advisor: Prof. Shlomit Yuval-Greenberg

The eyes are our body's most highly developed sensory organ. Every time we move our eyes, we are actively changing the visual image we perceive, making eyesight an active sense. In fact, our eyes serve as a direct window to our brain, and can expose cognitive processes in real time. Keren Taub is investigating how eye movements help us remember better, and how they are affected by individual differences, such as reading direction.

It was found that performing the same eye movements

during encoding and retrieval improves memory performance, but this mechanism could have both motor and visual components. Using an eye tracker, Keren aims to understand the role of eye movements in memory retrieval, and to evaluate the influence of reading experience on this behavior.

Keren was born in Kibbutz Mishmar Haemek in Israel's northern region. She completed a one-year voluntary pre-military service program in an educational institution, and served as a

correspondent in *Bamahane*, the IDF's weekly magazine. She later worked for several Israeli media channels, and travelled to Africa.

Upon her return to Israel, she studied at Tel Aviv University, earning both her BSc and MSc in neuroscience. Currently, she is mentoring a student with hearing impairment who is on her third-year of bachelor's degree studies. Keren lives in Tel Aviv with her husband.

Lilach Alon



School of Education

Research field: Personal information management

*PhD Advisor:
Prof. Rafi Nachmias*

The current era is characterized as one of ubiquitous information, with vast amounts of information constantly created and shared, in both the personal and professional arenas. Impossible to fully digest, these can induce stress and anxiety.

Lilach Alon examines individuals' practices of managing their personal information spaces in the current, information-overloaded era, bringing into the discussion their affective aspects. The conclusions of her research have led to a new view of personal information management and the gap between the actual situation and the desired one.

A former teacher and educator, Lilach completed her bachelor's degree in psychology and literature

and her master's degree in educational technologies, both at the Open University. For five years, she and her husband lived in a youth village, caring for 13 foster children in addition to their own three. Seeking a stimulating and challenging career path, she joined Prof. Nachmias's research group, which concentrates on the meeting points between information and technologies – and learning and teaching processes.

Today, Lilach lives with her family in Karmiel, in northern Israel, traveling to the university several times a week. She is an active member of the Ariane de Rothschild Women Doctoral Program's steering committee and dreams of becoming a senior lecturer in the academia.



*School of Neurobiology,
Biochemistry, and
Biophysics*

*Research Field:
Molecular biology*

*PhD Advisor:
Prof. David Sprinzak*

Bassma Khamaisi

The cells in our bodies are constantly sending and receiving signals to and from one another. When cell communication goes wrong, diseases may result. In fact, most diseases involve at least one failure in cell communication. By the same token, the success of many disease treatments relies on cell communication. Bassma Khamaisi studies the Notch-signaling pathway, a key inter-cellular communication system present in most multicellular organisms that plays a major role in processes such as the proliferation, fate, differentiation, and death of cells.

Bassma's research explores the factors that govern Notch signaling, including ubiquitylation and receptor-ligand affinity. Her research follows an interdisciplinary approach combining methods

from synthetic biology, quantitative imaging, micropatterning technology, and mathematical and statistical modeling.

Bassma was born in Kafr Kanna in the Galilee. She studied physics and mathematics at the Franciscan Sisters' High School in Nazareth, attaining top grades. She holds a BSc degree in medical sciences and life sciences (2015) and an MSc in biochemistry and molecular biology (2017), both from Tel Aviv University. She is currently enrolled in the direct PhD program at the university's Biochemistry and Molecular Biology Department.

Bassma is an active member of the Ariane de Rothschild Women Doctoral Program's steering committee.

Faculty of Exact Sciences

Research Field: Geography

PhD Advisor: Prof. Tovi Fenster

Yara Sa'diya

Yara Sa'diya was raised in Haifa, where she also lives today. Growing up, she attended the Sisters of Nazareth School in Haifa and studied classical music (piano and theory) at the Rubin Conservatory of Music. She earned her undergraduate degree in psychology and music at the University of Haifa, and continued to MA-degree studies at The Hebrew University in Jerusalem. She developed an interest in the field of human geography (which focuses on humans' relations with and across space and place), leading her to conduct research on the everyday spatial experience of Palestinian students at the university's Mount Scopus campus.

Her PhD research focuses on the politics of neoliberal urban renewal of historical neighborhoods in Israel, and the implications of these policies on the construction

of collective memories, identities, etc. The research employs a micro-geographical approach and draws on critical theories in exploring the meanings and resonance of various concepts, such as authenticity, ruins, landscape, and temporality. In seeking out the human and social aspect of the history of urban regeneration, her research could provide important insights into the ways in which urban planning policies have affected historic neighborhoods.

Yara volunteers in the Women's Courtyard of Haifa, which constitutes an anchor point for many young women who experience social or personal challenges. The program is designed to support the women through dialogistic relationships with the volunteers, as well as through various mentoring and enrichment programs.



Keren Shafir

Faculty of Humanities

Research Field: Psychoanalytic theory and literature

PhD Advisor: Prof. Shirley Zisser

Keren Shafir made Aliya alone from Johannesburg, South Africa, in 2005. After serving in the IDF, she completed a BA in psychology and English literature at Tel Aviv University, while volunteering at the Ichilov Medical Center. She then undertook her MA degree studies in clinical child psychology and educational psychology at the University of Haifa. During her studies, she worked as a psychologist at an elementary school and at Rambam Medical Center's Infant, Child & Adolescent Psychiatry Unit.

Keren combines psychoanalytic theory and literature in her PhD research. She works on the genre of elegy and other forms of poetic mourning. Mourning is one of the core questions of psychoanalytic theory and practice; Keren finds its exploration via literary texts a fascinating prism through which to examine this foundational issue.

In examining elegy's ancient origins and evolution, Keren found that some of the genre's major conventions attest to a melancholic refusal to

mourn, not what may be deemed mourning "proper" in a psychoanalytic sense. Keren, in turn, proposes a counter-form to elegy, which she terms "poetic burial", through her reading of Paul Celan's poetry. Earlier this year, she spent a semester at the University of Oxford's Bodleian Library, researching pastoral elegy in the English Renaissance.

She volunteers in the Academy for Life program, mentoring students in preparation for academic studies. Keren lives with her husband in Tel Aviv.

Shiran Abadi



Faculty of Natural Sciences

Research field: Bioinformatics

PhD Advisor: Prof. Itay Mayrose

Biotechnology can improve people's lives; a salient example is the CRISPR-based gene editing, which has emerged as a powerful new tool – with the potential of revolutionizing everything from medicine to agriculture. CRISPR enables scientists to edit genes in diverse organisms – including plants, mice, and humans – quickly and cheaply. Shiran Abadi seeks to improve this potent genetic technology to benefit human health.

Shiran conducts her research (in the direct PhD track) in Prof. Mayrose's lab at Tel-Aviv University's Faculty of Life Sciences, focusing on developing an algorithm to calculate the specificity of CRISPR, with the aim of improving its precision. The algorithm she is developing

may help specifically target disease-causing genes, for example, in cancer and hepatitis.

Her research follows a BSc and an MSc in bioinformatics, also at Tel Aviv University. She was born and raised in Tel Aviv, and was diagnosed with diabetes type 1 as an infant. Despite this, after majoring in chemistry, mathematics, computers, English, and French in high school, she volunteered to the IDF and served as a computer technician in one of its elite units.

Currently, Shiran teaches bioinformatics at the university's School of Computer Science, and volunteers with the Academy for Life and Bat Ami programs.



Tasneem Bareia

Faculty of Life Sciences

Research Field: Bacterial communication

PhD Advisor: Prof. Avigdor Eldar

Tasneem Bareia was born and raised in Fureidis, an Arab town in the Haifa district. Her decision to major in chemistry in high school would chart her future scientific path; recently, she has returned to the same school as a volunteer to work with outstanding students in their final school science projects.

After high school, Tasneem pursued a BSc in biochemistry and food sciences at The Hebrew University's Faculty of Agriculture in Rehovot. During that period, she worked in one of the

Weizmann Institute's labs, and was exposed to the world of bacterial communication; subsequently, in her MSc studies at Tel Aviv University, she chose to focus on microbial genetics.

Her PhD research combines diverse tools and skills in the fields of microbiology, genetics, molecular biology, microscopy, and molecular evolution, in an investigation of quorum sensing – or bacterial communication – and its involvement in the regulation of cooperation between bacterial cells.

Quorum sensing enables coordinated behavior in bacteria, with impact on the bacteria's ability to cause disease. Tasneem's research can help further the understanding both of diseases and the formulation of new antibiotics against them.

She volunteers at the Ajyal Center in Fureidis, an after-school framework for at-risk youth. She works with students with unfulfilled potential, helping them to make headway in mathematics.



Iman Jaljuli

Faculty of Exact Sciences

Research field: Statistics and operational research

PhD Advisor: Prof. Yoav Benjamini

Iman Jaljuli was born in Tira, in Israel's central district, where she also lives today. She's the first Arab religious woman in her community pursuing a PhD in exact sciences.

She was also the first Arab female student ever to pursue a graduate degree in statistics at Tel Aviv University. Her undergraduate studies accomplishments gained her an outstanding BA student award, and after one year of graduate studies, she transferred to the direct PhD track.

Her doctoral research addresses the central issue of replicability in experimental science. Viewing similar clinical studies held in unrelated clinics and/or over different time periods, Iman studies the lack of replicability phenomena in pre-clinical studies, developing evaluation tools of consistency in findings.

The highlight of Iman's work is the assessment of credibility of clinical results and its extension to other populations of treatment arms. She is developing a statistical quantification method that enables better understanding of the results of an ensemble of related studies. Her work combines programming, analyses, and theoretical development.

Beyond her academic and research activities, Iman volunteers in her home town, teaching mathematics to a group of high-school students with learning difficulties and serving as a public representative on the university's campus. In addition, she is a leading member of the Tira Academics Organization, mainly volunteering in academic guidance for high-school students and in hospitals.

Maayan Keshev



Faculty of Humanities

Research field: Sentence processing

PhD Advisor: Prof. Aya Meltzer-Asscher

Maayan Keshev was raised in Kiryat Ono, in central Israel. She completed her military service in the Intelligence Corps' research division and enrolled in Tel Aviv University's Adi Lautman Interdisciplinary Program for Outstanding Students, a highly competitive four-year direct MSc program (only 15 participants are accepted each year), in which students are encouraged to take courses from various disciplines, often from advanced years, in order to develop research skills and an interdisciplinary approach.

During her studies on the program, she developed an interest in the relation between the way in which we understand language and general cognitive abilities, such as memory, attention, and consciousness. Her MSc thesis, at the university's Sagol School of Neuroscience, centered on the cognitive mechanisms involved in the processing of complex sentences, and on forming the relation between two non-adjacent words. Continuing in the field of sentence processing, her

PhD research investigates error-prone sentences and the uncertainty of processing natural language (which often includes misspelled words and other errors). The research is significant for understanding how humans parse language, and has applications in the fields of linguistics, cognition, and artificial intelligence.

Maayan volunteers in the Academy for Life program, mentoring four at-risk youths and helping them prepare for their mathematics matriculation exams.





Prof. Daniel Zajfman
President
Weizmann Institute of Science

Dear Friends,

I want to extend my heartfelt congratulations to the Edmond de Rothschild Foundation on the special milestone it celebrates this year: the 10th anniversary of the Ariane de Rothschild Women’s Doctoral Program. The Weizmann Institute of Science is humbled and proud to be a partner to the program. Through your generous funding and diverse programming, every year four outstanding female doctoral students at Weizmann are offered a special opportunity to pursue their dreams for a career in science. As a result, every year, Israeli science blossoms and grows.

The program is an exemplar of how philanthropy can be applied to make a major difference in the lives and careers of women, enrich science, and shape the future of scientific leadership in Israel. The program dovetails perfectly with the Weizmann Institute’s emphasis on excellence and the ardent belief that the best people make for the best science. Indeed, we are like-minded in our realization that investing in the brightest minds—individuals who are passionate and curious—will pay dividends in terms of creating new understanding and knowledge that will benefit humanity.

I look forward to our ongoing partnership. In the meantime, **mazal tov** on all that the Ariane de Rothschild Women’s Doctoral Program has achieved in the last decade.

Sincerely,

Prof. Daniel Zajfman

President
Weizmann Institute of Science



Rosalie Lipsh-Sokolik

Faculty of Biochemistry

*Research field:
Computational protein
design*

*PhD Advisor:
Dr. Sarel J. Fleishman*

Rosalie Lipsh-Sokolik was raised in Kfar Chabad, a Haredi community in central Israel. After high school, rather than training to become a teacher – the “usual” route of female high-school graduates in her community – she paved her own path and became a scientist, earning an undergraduate degree in bioinformatics, *summa cum laude*, at the Jerusalem College of Technology (Lev Academic Center).

She continued to graduate studies at the Weizmann Institute, experiencing a

multi-cultural and a mixed-gender educational institute for the first time. Currently on the direct PhD track, Rosalie is developing methods for the design of proteins with novel or enhanced properties, such as new enzymes for green chemistry. Her achievements include methods for designing efficient enzymes to break down plant waste products into sugars and enzymes, which may be used for treating poisoning by nerve agents, e.g., Sarin. She is now applying machine-learning and other methods to

design efficient and selective proteins.

As one of the few Haredi women at the Weizmann Institute, she seeks to help other young women from her community to be involved in science. She meets Haredi high school students and shares with them her experience of studying towards an advanced degree in a non-religious academic institution while maintaining a Haredi way of life.

Rosalie lives with her husband in Kfar Chabad.

Gil Goffer

Faculty of Mathematics and Computer Science

Research Field: Theoretical mathematics

PhD Advisor: Prof. Tsachik Gelander

Gil Goffer grew up in Haifa, the oldest of five siblings who were all encouraged to work hard and excel. She attended a gifted students' class at Leo Baeck High School, focusing on physics, mathematics, and music (she plays the piano to this day). Her mathematical achievements led her to participate in several national Youth Math Olympics – highly prestigious competitions for school children. Later, prior to serving in an elite intelligence unit in the IDF, she volunteered for one year with the Society for the Protection of Nature in Israel.

After her military service, she became a tour guide and led groups on hikes throughout Israel's southern region for two years. She then embarked on a volunteer program in Cambodia, before undertaking

her undergraduate degree studies in mathematics at Ben-Gurion University.

She went on to complete a master's degree in mathematics at the Weizmann Institute, where she continued to a PhD – the sole female doctoral candidate in the field of theoretical mathematics. In her research, Gil investigates the symmetry of objects – infinite tree-shaped graphs; she is developing the mathematics to describe their behavior.

Gil is an organizing member of the women's forum in her department. She volunteers in the Academy for Life program, mentoring an at-risk young woman, and lives with her husband and their two children in Rehovot.



Yael Gropper

Faculty of Biology

Research field: Immunology, autoimmunity, and cancer-immunology

PhD Advisor: Prof. Jakub Abramson

Yael Gropper grew up in Dimona in the southern periphery. She studied physics and biology at the Zinman High School and was in the Israeli scouts throughout her youth, eventually filling leadership positions. She completed a year of community service in Jerusalem before joining the IDF, serving as a flight-control course commander in the Israel Air Force.

From an early age, Yael aimed to pursue her love for science in the academia. She studied biology at Ben-Gurion University, earning

a BSc degree. During that period, she participated in the Edmond de Rothschild Partnerships' Ambassadors program, doing volunteer work and founding a neighborhood social café together with neighborhood residents.

She completed a master's degree in biology at the Weizmann Institute, continuing directly to a PhD. Her doctoral research goal is to elucidate the development of autoimmune disorders, and exploit this knowledge for cancer immunotherapy.

Specifically, she is trying to isolate "auto-antibodies" from patients with autoimmune disease. These antibodies can recognize melanoma cells and can be used to develop new melanoma treatments, using antibodies already "designed" by nature.

Yael and her husband live in Rehovot. She volunteers at the Davidson Institute of Science Education, where she teaches science lessons to school children from all over Israel, with the aim of arousing the youths' creative curiosity and interest in sciences.

Michal Shavit

Faculty of Physics

Research field: Turbulence

PhD Advisor: Prof. Gregory Falkovich

Michal Shavit was born in Tajikistan and came to Israel as a young child. Her family settled in Shavei Shomron, a religious community in the northern West Bank. During her school years, Michal took part in Bar-Ilan University's program for youths gifted in mathematics, studied physics, and was also on a gymnastics team.

She served for five years in the Israeli Air Force, working with airborne systems. In her undergraduate studies, she participated in the Technion's excellence program, earning a bachelor's degree in mathematics alongside architecture studies. She also took part in an exchange-student program at Cornell University, where she focused on physics and decided to pursue this direction further.

Michal turned to her master's degree studies in the field of high-energy physics at the Weizmann Institute. Her PhD focuses on the theoretical foundations of turbulence, an ancient open problem of classical physics. In her research, she also studies strongly interacting electron systems from the viewpoint of hydrodynamics – an emergent field called 'viscous electronics'.

Michal is active in the First in Science program, meeting students of junior-high and high schools throughout Israel and talking with them about science and her own path. She and her husband, who live in Rehovot, are expecting their first child.



Faculty of Biochemistry

Research field: Molecular genetics

*PhD Advisor:
Prof. Rotem Sorek*

Adi Millman Dayan

Bacteria are frequently attacked by viruses (called bacteriophages, or phages in short); in response, they have developed multiple sophisticated active defense systems. Encoded in the bacterial genome, scientists have shown that these systems are clustered in defense “islands”; in her PhD research, Adi Millman Dayan is attempting to systematically identify and isolate these “islands” in various bacterial species using a computational approach. The outcomes of her work can provide important tools for

genetic engineering and help elucidate the bacterium-virus interaction.

Adi grew up in Ashkelon, in Israel’s southern region, and served in the IDF’s computer and information systems center for five years. She earned her BSc in biology at Tel Aviv University as part of an outstanding students’ program, and her master’s degree at the Weizmann Institute.

She volunteers in Children Playing Chess – a non-profit organization that provides children from underprivileged

families with the opportunity to acquire values and skills while learning chess.

In addition to research and volunteering, dance is an integral part of Adi’s life – and has been ever since she was a young girl. She started dancing at age 10, was trained in classical ballet and modern dance, was a member of a professional ballet company, and still dances ballet today.

Adi currently lives with her husband and their young son in Kibbutz Na’an, near Rehovot.

Gil Schwartz



Department of Science Teaching

*Research field: Mathematics
education*

*PhD Advisors: Prof. Abraham
Arcavi and Dr. Ronnie Karsenty*

A native of Kibbutz Ein Hahoreh, in central Israel, Gil Schwartz is the first member of her family to pursue a university degree. After high school, she volunteered for a year with HaShomer HaTzair youth movement in Acco, and served in the IDF as a teacher-soldier.

She completed a BSc in mathematics at Ben-Gurion University and travelled to Sweden on a student exchange program. Setting her sights on making an impact on mathematics learning in Israel, she joined the Weizmann Institute's

Department of Science Teaching for a master's degree that combined her mathematical knowledge and experience in education. She also received a teacher's certificate and worked as a teacher, then opted to continue to a PhD in her field.

The focus of Gil's research is on how lead teachers in mathematics can become successful facilitators who foster professional growth among peers. She closely follows facilitators of a video-based professional development program during their qualification phase and first year of

practice. Her research is expected to make both a theoretical contribution, in capturing facilitators' professionalization processes, and a practical impact, in providing recommendations for the design, implementation, and evaluation of facilitators' education and the support needed during their initial years of activity.

Gil and her husband live in Tel Aviv. She serves on the Ariane de Rothschild Women Doctoral Program's steering committee.



Faculty of Biochemistry

Research Field: Molecular genetics

PhD Advisor: Prof. Maya Schuldiner

Eden Yifrach

Peroxisomes are small organelles found in animal, fungi, and plant cells, which carry out a variety of metabolic reactions, such as the breakdown of fatty acids. As depicted in the 1992 film *Lorenzo's Oil*, peroxisomes are implicated in several rare inherited diseases that may lead to death. In her research, Eden Yifrach has identified nearly 40 new peroxisomal proteins in yeast cells and is now characterizing their function, in research that can give rise to a new understanding of peroxisome-related diseases.

She grew up in Kibbutz Massad in the Lower Galilee and studied at the Kadoorie agricultural high school, where she discovered an innate interest in scientific research. Prior to her military service, she volunteered for one year at the Sde Boker field school in the Negev, where she also served in the IDF.

Eden received her BSc degree in plant science and conducted research as part of the Amirim program for outstanding students at The Hebrew University's Faculty of Agriculture. She continued to a master's degree at the Weizmann Institute, and, in her PhD research, is part of a lab dedicated to uncovering novel functions for yeast organellar proteins.

Eden, who lives in Rehovot with her husband and their two young children, is a member of the Ariane de Rothschild Women Doctoral Program's steering committee.





Prof. Daniel Chamovitz
President
Ben-Gurion University of the Negev

Dear Friends,

I am honored to take this opportunity to thank the Edmond de Rothschild Foundation for their wonderful support of the Ariane de Rothschild Women Doctoral Program at Ben-Gurion University.

This important program, aspiring to promote gender equality and empower talented female researchers, was launched at BGU in 2018. We are thrilled to have the privilege of taking part in this exciting project, enabling our leading female doctoral students to invest their time and efforts in their research, and reach their highest potential. This program is vital to advancing our social agenda to encourage our female researchers to “break the glass ceiling” and conduct the ground-breaking work that I know they are capable of.

At a time in history when women are finally receiving an opportunity to lead and to make a difference, the Ariane de Rothschild Doctoral Program is especially relevant and will play a key role in ensuring women’s success in academia.

I strongly believe that our excellent female researchers have the potential to change our reality and ensure a brighter future for the Negev, for Israel and for the world. Thank you for letting them shine.

Our BGU students embody hope – and nothing is more important than hope.

Thank you for partnering with BGU.

In friendship,

—

Prof. Daniel Chamovitz

President
Ben-Gurion University of the Negev

Reem Al-Aasam

Faculty of Natural Sciences

Research field: Computer vision

PhD Advisor: Prof. Jihad El-Sana

Reem Al-Aasam is the first Bedouin woman to complete a bachelor's and master's degree in computer science at Ben-Gurion University.

She grew up in Tel Sheva, where she also lives today. As a young girl, she loved studying, both at school and on her own – teaching herself Hebrew, English, and mathematics. After high school, she joined the English literature and language undergraduate program, adding computer science a year later. The studies were challenging, but she saw

their future potential – and persevered.

Her master's degree research integrated her different fields of knowledge, addressing word recognition in historical (over 1,000 year-old) hand-written manuscripts in Arabic, and yielding three publications, with Reem as the lead author.

In her doctoral studies, she focuses on augmented reality and computer vision, a broad field that encompasses image processing – and therein, also word recognition – as well as

video (object tracking), virtual reality, and more. Reem's research includes algorithm development and testing.

Beyond her studies and research, she is a teaching assistant at the university and teaches high-school computer science one day a week. She also volunteers with three organizations working within Bedouin society (the Tamar Center, BridgeTech, and Ahd School Hora) to empower Bedouin high-school students and motivate them to seek higher education.



Helena Fridman

*Faculty of
Natural Sciences*

*Research field:
Nanomaterials*

*PhD Advisor:
Prof. Taleb Mokari*

Nanomaterials, as the name suggests, are very small – less than one millionth of a meter in size. Their unique physical and chemical features may confer improved properties, such as greater reactivity, tunable electrical characteristics, and functionality. Helena Fridman studies the formation mechanisms of metal chalcogenide and other semiconductor nanoparticles, and how the nanomaterials' surface properties relate to their composition, size, and shape.

She grew up in Beit Shemesh, near Jerusalem, taking part in a high-school science and mathematics excellence program. During her military service at an Air Force Intelligence Unit, she acquired the skills and aspiration that would later serve her chosen direction of research.

Helena, who holds a BSc and an MSc in chemistry from Ben-Gurion University, joined Prof. Taleb Mokari's research group at Ben-Gurion University as a PhD student in 2018. The group focuses on novel nanomaterials for optical, electrical, and energy-related applications. Understanding nanomaterials, their inherent properties – and how these can be harnessed and changed – is of great consequence due to their significant potential for future use – e.g., for storing solar energy.

She teaches at the university one day a week, and volunteers in the Lone Soldier Center in Memory of Michael Levine – accompanying two lone female soldiers and providing them with counseling and guidance on an ongoing basis.

Shenhav Malul



*Guilford Glazer Faculty of Business
and Management*

*Research field: Accounting and
actuarial science*

*PhD Advisors: Prof. Rami Yosef
and Prof. Ilanit Gavious*

Shenhav Malul grew up in a Haredi community in Beer Sheva. She studied business administration and accounting at the Ono Academic College Haredi Campus (including two consecutive years on the dean's list), graduated, and obtained her CPA license. She subsequently worked as an auditor at two of Israel's leading accounting firms.

She then pursued a graduate degree in finance and insurance at Ben-Gurion University. In 2016, she co-founded an accounting and business consulting firm,

which she left in 2018 to focus on her PhD research. Her research is an empirical actuarial assessment of corporate liabilities, centering on the listing process and conducted across international jurisdictions.

Shenhav began teaching early on in her career, preparing students for external exams in statistics, financing, economics, and accounting, and also trained local authorities' teams throughout Israel in her fields of expertise. She currently also serves as a teaching assistant

in the Department of Business Administration.

Throughout her career, Shenhav has engaged in volunteer activities aimed at encouraging young Haredi women to enter the academia, seeking to inspire others from her community to pursue an academic degree.

Shenhav lives in Beer Sheva with her husband and their two daughters.

Leah Michael Rosental



Faculty of Natural Sciences

Research field: Plants' metabolic response to stress

PhD Advisor: Dr. Yariv Brotman

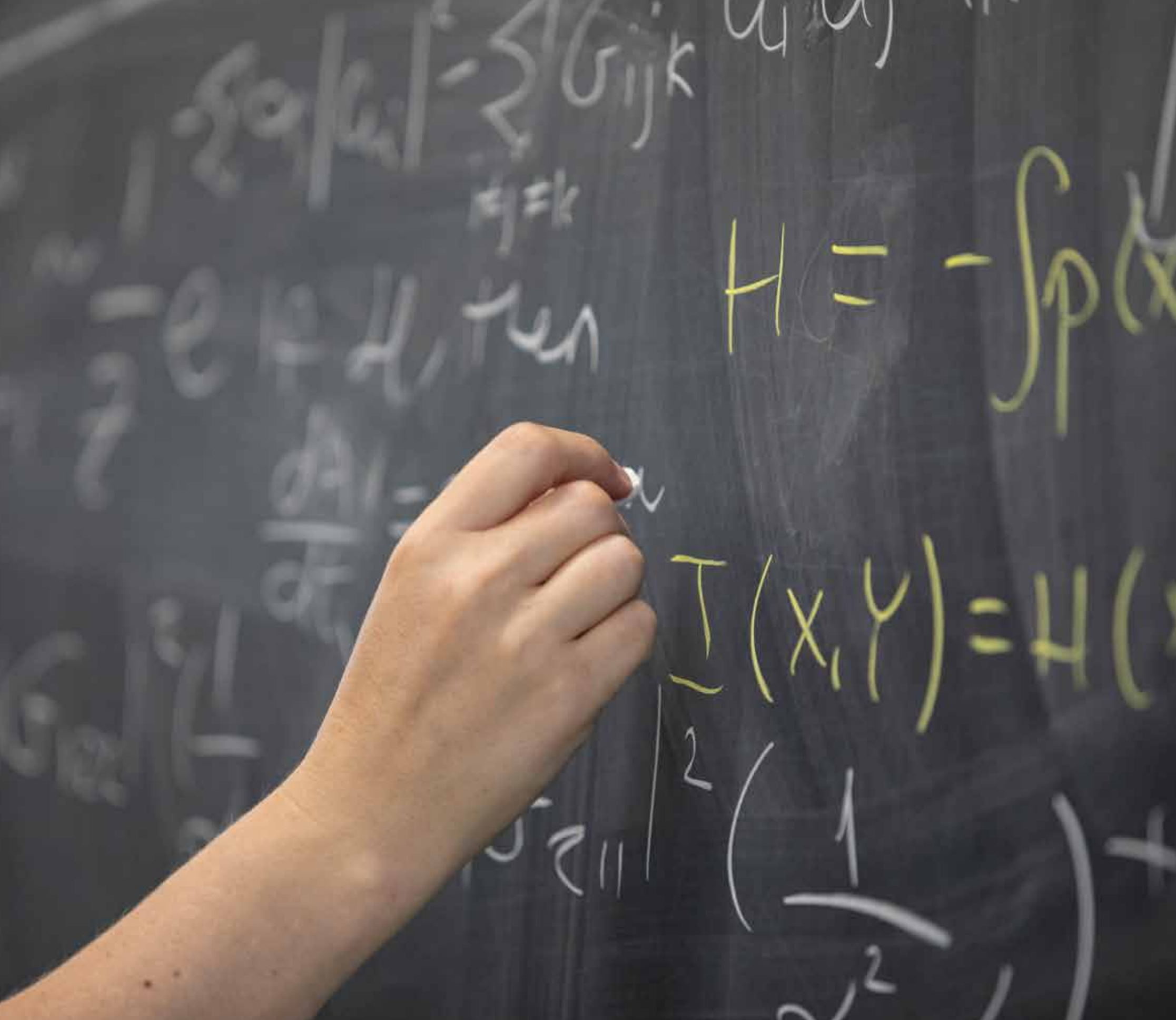
Leah Michael Rosental applies the tools of molecular biology in an attempt to improve tomato plants' resistance to drought and enhance their growth in reduced water conditions. She works with various (not necessarily edible) tomato strains, and searches for genes and metabolic mechanisms associated with their response to stress, with the aim of transferring these to crop varieties.

In previous work, Leah studied the genetics of another crop plant: In the service of the U.S. Agricultural Service, she researched lettuce plants and their response to heat conditions. Her BSc is in agronomy, from The Hebrew University's Faculty of Agriculture in Rehovot, and her MSc is in agriculture and

biotechnology of drylands, from Ben-Gurion University.

Plants had interested Leah ever she was a young girl, growing up in Kibbutz Hannaton in the Lower Galilee. She would later move with her parents and two brothers to central Israel, study high-school chemistry, biology, and computer science, and serve as an officer in the Caracal Battalion, a mixed ('coed') IDF infantry combat unit.

Having returned recently from the U.S. with her husband and their two children, Leah began her PhD research at Ben-Gurion University. In parallel, she also volunteers as a mentor to a young woman in the Academy for Life program.



Index of program participants (2009-2019)

102	Abadi Shiran	18	Kardosh Nour	28	Shlezinger Mor
32	Abargil Maayan	45	Keller Chaya	36	Solomon-Khalifa Leron
40	Abtew Ester	108	Keshev Maayan	24	Soudah Nadine
74	Abumanhal Masarweh Hanan	96	Khamaisi Bassma	92	Taub Keren
45	Abu-Much Huda	76	Khoury Maria	72	Toubiana Shir
41	Aburabia Rawia	81	Krinsky Nitzan	41	Tsvirkun Darya
42	Aizenberg Olga	60	Kulisch Daniele	44	Tsybulsky Dina
132	Al-Aasam Reem	62	Lazar Moran	45	Uzefovsky Florina
94	Alon Lilach	66	Levy David Shlomit	64	Vinokur Jenia
40	Barash Harman Yael	114	Lipsh-Sokolik Rosalie	81	Vishinkin Rotem
104	Bareia Tasneem	54	Litwin Anat	38	Wainer Katsir Kerem
50	Beckerman Margarita	136	Malul Shenhav	81	Warwar Damouny Christine
40	Belinko-Sabah Lital	42	Marey-Sarwan Ibtisam	126	Yifrach Eden
58	Ben-El Greenblatt Rina	138	Michael Rosental Leah	30	Zalaznik Dina
40	Bonjak Maayan	122	Millman Dayan Adi	81	Zalmanovich Neta
43	Brandes Ofra	42	Nimri Lili		
86	Bukchin Shira	56	Omar Rawan		
44	Elnekave Mazal	78	Orlova Yevgeniya		
43	Fayez Jaber Liana	20	Pash Pe'era		
41	Feldman Daria	22	Pasitselska Olga		
134	Fridman Helena	34	Paz Yael		
116	Goffer Gil	42	Reich Israeli Lior		
43	Greenberg Raanan Malka	43	Reichenberg Shiran		
118	Gropper Yael	70	Roitman Sheila		
41	Grunin Michelle	88	Roth Helena		
52	Haj Jozafina	98	Sa'diya Yara		
81	Hanuka Adi	42	Sasson Keren		
26	Holzer-Kawalko Anna	124	Schwarts Gil		
68	Homede Abo Jabal Ekhlas	100	Shafir Keren		
44	Israel Moran	120	Shavit Michal		
106	Jaljuli Iman	90	Shibi Maysoon		



Edmond de Rothschild Foundation (IL)
104 Rothschild Blvd., Tel Aviv, Israel
edrf.org.il