ADAMS
Fellowships מלגות אדמס

האקדמיה הלאומית הישראלית למדעים
المجمع الوطني الإسرائيلي للعلوم والآداب
THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES

סמינר תשפ"ד | Seminar 2023

ADAMS
Fellowships מלגות אדמס

האקדמיה הלאומית הישראלית למדעים
المجمع الوطني الإسرائيلي للعلوم والآداب
THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES

Adams Seminar

2023

סמינר אדמס תשפ"ד

Guest Lecturer

Prof. Amnon Shashua

CEO of Mobileye and Professor of Computer Science
The Hebrew University of Jerusalem

Editor
Deborah Greniman

Photographers
Reouven Ben Haim, Vera Etzion, Michal Fattal,
Udi Katzman, Sasson Tiram

Graphic Design
Navi Kaduri

The Israel Academy of Sciences and Humanities
P.O.Box 4040 Jerusalem 9104001
Tel 972-2-5676207
E-mail batsheva@academy.ac.il
www.adams.academy.ac.il

Follow the Academy on social media

האקדמיה הלאומית הישראלית למדעים
المجمع الوطني الإسرائيلي للعلوم والآداب
THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES

ADAMS
Fellowships מלגות אדמס

The Adams Fellowships is a joint program of the late Mr. Marcel Adams of Canada and the Israel Academy of Sciences and Humanities.

Chartered by law in 1961, the Israel Academy of Sciences and Humanities acts as a national focal point for Israeli scholarship in both the natural sciences and the humanities and social sciences. The Academy consists of 149 of Israel's most distinguished scientists and scholars, who, with the help of the Academy's staff and committees, monitor and promote Israeli intellectual excellence, advise the government on scientific planning, fund and publish research of lasting merit, and maintain active contact with the broader international scientific and scholarly community.

For more information, please send an e-mail to batsheva@academy.ac.il.
Visit our website: adams.academy.ac.il

Marcel Adams

Hebrew-speaking philanthropist Marcel Adams, who escaped from a forced-labor camp in Romania in 1944, fought in Israel's War of Independence and made his fortune in Montreal, has endowed the Adams Fellowship Program to support Israel's brightest doctoral students in the natural and exact sciences each year.

Marcel Adams (Abramovich) was born in Piatra-Neamt, Romania, in 1920. The anti-Semitic regime in Romania during the Holocaust interrupted his studies, triggering a lifelong quest for learning and a zest for the life of the mind. An active member of Hanoar Hazioni in Bucharest, Adams survived forced labor, food shortages and arbitrary harassment by the authorities.

After coming to Israel with the Jewish Agency's help in 1944, Adams settled in Pardes Hanna and participated in the War of Independence. He moved to Canada in 1951 and worked as a tanner before going into real estate. He eventually developed dozens of properties, mostly in eastern Canada, including Galeries de la Capitale, the largest shopping mall in the province of Quebec. With his late wife Annie, he established Tel Aviv University's Adams Institute for Business Management Information Systems and endowed the university's Adams Super Center for Brain Research. Marcel Adams was a Montreal resident, the proud father of four and grandfather of eleven. After a lifetime full of energy and promoting young scientific minds, he passed away shortly after the celebration of his 100th birthday.

Adams officially signed an agreement to establish the Adams Fellowships with the Israel Academy of Sciences and Humanities in Jerusalem in May 2005. The fund provides fellowships annually to outstanding Ph.D. students, covering their full tuition and living expenses throughout three to four years of study and including funds for attending scientific conferences abroad. Most recipients are aged 26 to 34.

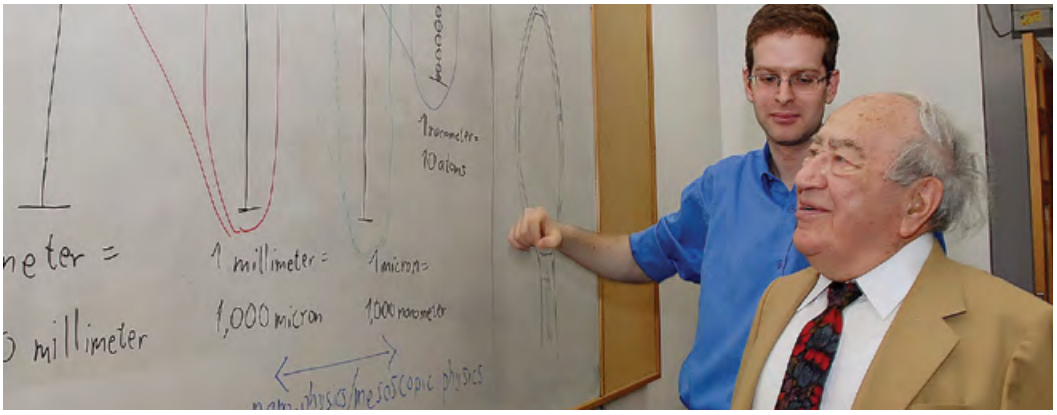
The easy way would have been to hand over a check, but Adams wished to pay back his 1944 debt to the Jewish people, which gave him a new identity and hope for rebuilding from the ashes of Europe. And so he endowed a fellowship program to enable talented young men and women to thrive intellectually, scientifically and technologically, and in turn to carry the flag for the next generation and for future generations.

A professional committee at the Academy reviews applications from doctoral students and chooses the awardees, for study in such fields as organic chemistry, molecular biology, chemistry, mathematics, engineering, physics, genetics, computer science, data science and brain research.

Marcel Adams wished to help the best and brightest academics, those with tremendous potential for growth, who have demonstrated excellence in both quality of mind and personal character.

This year's newly appointed Adams Fellows represent the Nineteen Cycle of the Adams Fellowship Program.

Marcel's Precious Moments with his Adams Fellows


1 millimeter =
1,000 micron
1 micron =
1,000 nanometer

Prof. David Harel

President of the Israel Academy

For the past 18 years, The Israel Academy of Sciences and Humanities has been proud to grant the Adams Fellowships to outstanding doctoral students. The program was founded by the late Marcel Adams, who passed away three years ago.

This extremely important endeavor has produced some of Israel's most brilliant researchers in the natural sciences, and in mathematics, computer science and engineering, and today I would like to warmly greet the new fellows of the 19th cycle – to commence in the academic year 2023-2024.

Over the years, the winners have very successfully joined academic institutions, high-tech and biotech industries and the health system, both in Israel and abroad. In addition, the research of Adams Fellows is published in the world's most important scientific journals. Each year we are in awe, hearing of the extraordinary candidates who compose the new group of fellows, and this year's winners are no different. I recommend that we all take note of their names, which are worth remembering for the future.

The Adams stipend amounts to NIS 100,000 a year for each of the 3-4 years of the fellowship. In addition, the Adams Fellowships Program allots fellows up to $3,000 of travel money for each year of the fellowship, to support active participation in international scientific conferences and workshops, research collaborations or travel to interview for postdoctoral positions abroad. This travel allowance contributes meaningfully to furthering the professional careers of the fellows.
I wish to express my deep gratitude to Sylvan Adams and his siblings, Linda, Julian and Leora, who continue in their father's footsteps, showing total commitment to science and to the young scientists who win the fellowships. Besides its significant financial contribution, the Adams Fellowships Program, through its seminars, conferences, field trips and workshops, provides vital training and motivation for the young scientists' development, and helps in their efforts to attain the high level of research expected of Adams Fellows.

In addition, I wish to express my deep appreciation to Academy Member Professor Moshe Oren, who chairs the Academy's Steering and Approval Committee of the Adams Fellowships Program, and to his other committee members, for their extensive work on evaluating the applications and selecting the outstanding young scientists who receive the fellowships each year. Great work!

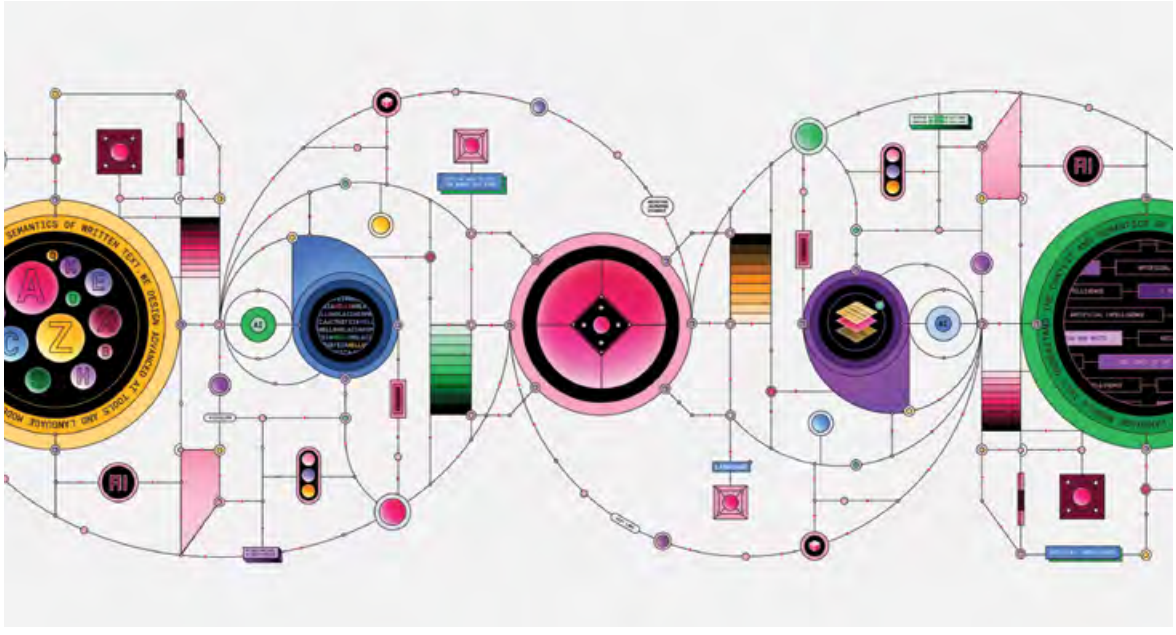
Prof. Amnon Shashua

CEO of Mobileye and Professor of Computer Science
The Hebrew University of Jerusalem

Guest Lecturer on

The Excitement and Danger in Modern AI

Prof. Amnon Shashua is a world-renowned expert in AI, computer vision, natural language processing, and related fields. In 2023, he received the Israel Prize, the nation's top civilian honor for contributions to society, and he had previously been named the 2020 Dan David Prize laureate in the field of Artificial Intelligence and the 2022 Mobility Innovator by the Automotive Hall of Fame. Shashua has founded four companies using applied AI in various fields, from automotive to assisted wearables to fintech: Mobileye, OrCam, AI21 Labs, and "One Zero," the first digital bank in Israel. Prof. Shashua serves as President & CEO of Mobileye, which was acquired by Intel in 2017 as the largest acquisition in Israeli history and went public again in 2022 on the Nasdaq stock exchange under the ticker symbol MBLY. Prof. Shashua holds the Sachs Chair in Computer Science at The Hebrew University of Jerusalem, has published over 160 papers in the field of machine learning and computational vision, and holds over 140 patents.



AI21 Labs Announces Jurassic X-Module
Above: ©Jonathan Hepner

Prof. Moshe Oren

Academy Member; Chair, Adams Fellowships Steering and Approval Committee

Warm greetings to all of our Adams Fellows, Adams Alumni, Adams Committee Members, Academy President Prof. David Harel, Academy Vice-President Prof. Margalit Finkelberg, Academy Members, and, last but surely not least, the dear members of the Adams family, whose continuing generosity has enabled this unique program to promote scientific excellence in Israel for over eighteen years.

Marcel Adams, founder of the Adams Fellowships program, was born in 1920 and lived in Europe through the years of World War II and the Holocaust. With the help of the Jewish Agency, he was able to escape Europe in 1944 and come to Palestine. He subsequently moved to Canada, but he always remained loyal to the State of Israel. Marcel never had a chance to complete his formal education, but this only increased his passion for learning and his admiration for human knowledge. As a visionary who cares about the future of this country, he sought to make his own contribution towards advancing knowledge in Israel; and as someone with a track record of making wise investments, he decided to invest in our next generation of scientific leaders. This entrusts you, Adams Fellows, with a special mission: You are expected not only to advance your own careers, but also to fulfil a dream – Marcel's dream of making Israel a hub of scientific excellence and a powerhouse of human knowledge.

We, the members of the Adams Committee, make every effort to ensure that we pick the best of the best. Your task, in turn, is to demonstrate that we made the right decisions, and that you stand up to the expectations of Marcel Adams. Always strive to be as excellent as you can be, and never let your curiosity and passion for knowledge fade.

And a word of advice: As you are well aware, many "basic" discoveries are rapidly transformed into startups and commercial entities, particularly in our "startup nation." This is a blessing, but also a danger. Mixing academic research with business considerations may cause us to refrain from sharing our knowledge, lest they "steal our secrets". This goes against the spirit of pure science and slows our journey toward a better understanding of our universe and everything in it. Don't be afraid to share. In a world where we are overwhelmed by the

amazingly rapid flow of information, scientific research is not a one-man or one-woman game anymore. In this world, collaboration is the best guarantee of accelerated progress. If you are good enough – and, being an Adams Fellow, you are undoubtedly excellent – you will stand out and receive your due recognition.

Until your time arrives, Adams Fellows, to join the coming generation of scientific leaders in our country, I would like to wish you all a lot of satisfaction in your scientific endeavors and in moving successfully to the next stages of your careers.

Eliana Steinberg receiving her fellowship certificate – Adams Seminar 2022



ANDY RUIZ
AR




The Israel Academy of Sciences and Humanities


Class of 2022-2023 with Albert in the Science Garden Left to right: Dr. Julian Adams, Prof. Moshe Oren, Prof. David Harel, Linda Adams-Troy, Sylvan Adams, Nitzan Aframian, Omer Grenek, Margaret Adams, Prof. Hermona Soreq, Batsheva Shor, Prof. Noam Sobel. Sitting in front: Eliana Steinberg, Matan Eilat

ADAMS Fellowships Steering & Approval Committee

Prof. Moshe Oren
Chair

Prof. Naama Barkai

Prof. Yoav Benjamini

Prof. Gedeon Dagan

Prof. David Gershoni

Prof. Shmaryahu Hoz

Prof. Jacob Klein

Prof. Joseph Kost

Prof. Micha Sharir

Prof. Hermona Soreq

Prof. Yeshayahu (Ishi) Talmon

Former Committee Members

Prof. Moti Segev, Immediate Past Chair

Prof. Amiram Grinvald, Past Chair

Prof. Itamar Willner, Past Chair

Prof. Chaim Cedar, Past Chair

Prof. Yoram Groner, Founding Chair

Prof. Yakir Aharonov
Prof. Noga Alon
Prof. Moty Heiblum
Prof. Gil Kalai
Prof. David Kazhdan
Prof. Moshe Moshe

Prof. Elon Lindenstrauss
Prof. Avraham Nitzan
Prof. Yosef Shiloh
Prof. Igal Talmi
Prof. Jacob Ziv


Research

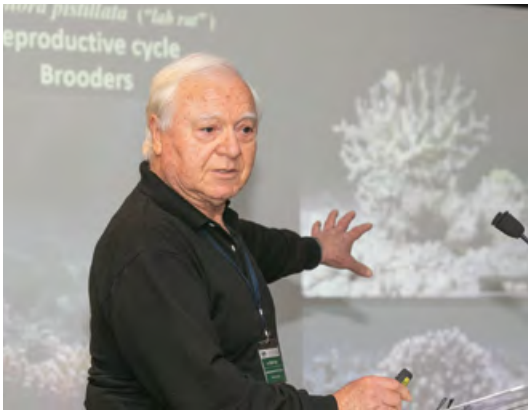









Understand
Growth


eproductive cycle
Brooders

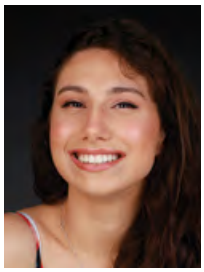
ADAMS Fellows

2023–2024

Shira Gavriely

PhD student of **Prof. Shachar Richter** *and* **Dr. Ines Zucker**, Department of Materials Science and Engineering, Tel Aviv University

Dissertation topic: Biomaterials for Environmental Applications



Shira Gavriely, born in 1993, lives in Ramat Hasharon with her husband, Gilad, and their baby boy, Alon. Always interested in science, Shira chose to do five-unit electives in chemistry, computer science, and physics for her matriculation exams, and in the 10th grade she completed the youth enrichment program in mathematics at Bar-Ilan University. After serving three years at the IDF intelligence service, Shira enrolled at Tel Aviv University, majoring in chemistry and materials science and engineering.

Shira received the rector's award twice during her undergraduate studies and completed her BSc *magna cum laude* in chemistry and in materials science and engineering. She went on immediately to MSc studies at Tel Aviv University under the supervision of Prof. Shachar Richter, continuing to research the main subject of her final undergraduate project: exploiting bio-materials (specifically mucin glycoprotein extracted from jellyfish, among other sources) for different applications. However, while her final project focused on the biomedical field, she now shifted her research focus toward environmental issues, a field about which she is particularly passionate, and she transferred to a direct-track PhD under the co-supervision of Dr. Ines Zucker, an environmental engineering expert. She is currently continuing her research on using mucin's natural properties to treat and decontaminate water.

Gal Keshet

PhD student of **Prof. Nissim Benvenisty**, Department of Genetics, The Hebrew University of Jerusalem

Dissertation topic: Studying Pluripotency and Parental Imprinting Utilizing Human Pluripotent Stem Cells

Gal grew up in Givat Shmuel and now lives in Jerusalem with his wife Liron. Pursuing his BSc in life sciences at Ben-Gurion University, Gal became interested in biomedical research, epigenetics and stem cell biology. After completing his BSc with honors, Gal continued to a direct PhD program at the Azrieli Center for Stem Cells and Genetic Research in the Department of Genetics of The Hebrew University of Jerusalem, under supervision of Prof. Nissim Benvenisty, where he is studying imprinted genes and pluripotency, utilizing human pluripotent stem cells.

Genomic imprinting is a fascinating phenomenon whereby genes are expressed in a parent-of-origin-dependent manner. It is essential for proper embryonic development and can cause serious disorders when misregulated. Human pluripotent stem cells are cells that can differentiate into all the cell types of the body, thus holding great potential for biomedical and research applications. By differentiating pluripotent stem cells containing an exclusively paternal genome from ovarian cells, Gal and his peers showed that genes that are expressed only from the father's genome are essential for the development of the female reproductive system. Gal is also interested in exploring the underlying molecular pathways that govern pluripotency, to better understand early human embryogenesis. He has already published some of his research in scientific journals, presented his studies at several international meetings, and received travel and excellence awards.

Majd Machour

MD/PhD student of **Prof. Shulamit Levenberg**,
Faculty of Biomedical Engineering,
Technion – Israel Institute of Technology

Dissertation topic: 3D Bioprinting of Complex Multi-layered Tissue

Majd, born and raised in Nazareth, graduated *summa cum laude* from the Technion in 2019 with a double BSc in biomedical engineering and medical sciences. He was accepted into the MD/PhD program and started his MSc studies at the Technion's faculty of biomedical engineering under the supervision of Prof. Shulamit Levenberg, in the field of tissue engineering and bioprinting.

Majd is working on developing complex, multi-layered vascularized tissue substitutes to treat severe defects. He is using 3D bioprinting, a promising technique, to fabricate these substitutes. However, there are still challenges to overcome before it can be used in clinical practice. One challenge is the non-uniform shrinkage of printed constructs during the post-printing tissue maturation, which can lead to variable engineered constructs with unpredictable size and shape. To overcome this problem, Majd has invented and developed a novel technology called "Print and Grow" that enhances the long-term structural stability of the printed objects. This technology allows for the fabrication of patient-specific geometries that can maintain their structural fidelity and cellular viability after long-term incubation.

Majd is also working on other challenges in tissue engineering, such as developing microsurgical techniques for the direct anastomoses of engineered blood vessels upon implantation, and researching and inventing new printable materials to allow for the fabrication of vascularized bone substitutes. These are crucial steps toward fully engineered bioprinted tissue replacements.

Omri Matania

PhD student of **Prof. Jacob Bortman**,
Faculty of Mechanical Engineering,
Ben-Gurion University of the Negev

Dissertation topic: Algorithms for Hybrid Models and Physical TDM for Zero-ault Shot Learning for Fault Diagnosis and Severity Estimation

Omri grew up in Shoham and currently resides in Tel-Aviv. He earned a BSc in mathematics and physics at The Hebrew University of Jerusalem in the framework of the IDF's Talpiot program. Omri served in the IDF for a total of nine years, six of which were dedicated to working as an R&D electronics engineer, where he led an algorithm R&D section focused on signal processing and deep learning. He completed his MSc studies in mechanical engineering at Ben-Gurion University of the Negev under the guidance of Prof. Jacob Bortman at the BGU-PHM laboratory, where he is currently a PhD student.

Omri's research focuses on improving the prognosis and health monitoring of machines using a combination of hybrid simulations, digital twins, signal processing, and machine learning. He aims to enhance the current algorithms for fault location estimation and extend them for fault severity estimation under the assumption of zero-fault-shot learning, where there are no examples of faulty signals (labeled or unlabeled) of the tested machine. Additionally, Omri is trying to develop an order framework for fault diagnosis, based on digital twins, to replace traditional methods, which often require long and specific algorithm research and development for each fault type.

Avishag Mytlis

PhD student of **Dr. Yaniv Elkouby**,
Faculty of Medicine,
The Hebrew University of Jerusalem

Dissertation topic: Cilia Mechanisms in Egg and Sperm Development

Avishag, born in 1993, grew up in Yehud and now resides in Jerusalem with her partner, Sahar, and their cats. Inspired by her father, who was a biology teacher, Avishag pursued a BSc in life sciences at the Hebrew University. During her studies she worked as an instructor at PICO Kids, a Jerusalem-based organization that uses technological hands-on learning to nurture children to be problem-solvers. She was also a mentor at QueenB, a feminist nonprofit organization promoting girls learning coding and tech. Captivated by the fascinating research taking place in Dr. Yaniv Elkouby's lab and its potential for advancing women's health and well-being, Avishag started her MSc research there. She was awarded the Reem-Kayden Scholarship for outstanding women graduate students in science.

Avishag is a direct-track PhD candidate in biomedical sciences at the Hebrew University, under the supervision of Dr. Elkouby. Her research focuses on meiosis and gametogenesis in zebrafish. Together with her lab-mates, she uncovered an unknown organelle, a cilium, that is essential for oogenesis and female fertility. The cilium is conserved in male meiosis as well as in mouse oocytes and spermatocytes. Currently, Avishag is investigating the action mechanisms of the newly identified cilium in the hope of finding new solutions for human infertility.

Ron Ruimy

PhD student of **Prof. Ido Kaminer**,
Faculty of Electrical and Computer Engineering,
Technion – Israel Institute of Technology

Dissertation topic: Free Electrons as a Resource for Quantum Technologies

Ron Ruimy was born in 1998, grew up in Moshav Talmey-Yechiel, and now resides in Haifa. From an early age, his interest in natural sciences and technology was cultivated by his mother, an avid reader and curious personality. Seeking a career filled with riddles and challenges, he embarked upon a double major in electrical engineering and physics at the Technion immediately after graduating from high school. During his undergraduate studies, Ron started working with Prof. Ido Kaminer on a research project that led to a successful publication in the eminent journal *Physical Review Letters*, proposing the use of free electrons inside an electron microscope as a new tool for imaging of quantum coherence.

During the final year of his BSc studies, which he completed *summa cum laude*, Ron started working on his MSc with Prof. Kaminer, and he then transferred to a direct PhD track. His research focused on free electrons and electron microscopy and sought-after possibilities to create new kinds of quantum technologies. Alongside his research, Ron enjoys teaching and lecturing and looks forward to developing both as a researcher and as an educator.

Omri Shelef

PhD student of **Prof. Doron Shabat**, Department of Organic Chemistry, Tel Aviv University

Dissertation topic: Design, Synthesis and Application of Chemiluminescent Probes for Bacterial Identification, ENPP Detection and DNA Sequencing

Since he was in school, Omri has been fascinated by the interface between chemistry and biology. He completed his BSc at Tel Aviv University *summa cum laude*. His project in Professor Doron Shabat's lab led to his first publication on the developement of a novel chemiluminescent probe for early detection of melanoma.

Omri is currently a direct-track PhD student at Tel Aviv University, where he is continuing his research in Prof. Shabat's lab. His research aims to develop highly sensitive, cost-effective, and simple-to-operate diagnostic tools to improve day-to-day disease diagnosis. Chemiluminescence (CL) is the emission of light as a result of a chemical reaction. Due to CL's unique properties, it is considered one of the most powerful diagnostic tools for biosensing and bioimaging. Taking advantage of this remarkable sensitivity, utilizing fundamental synthetic organic chemistry, Omri developed chemiluminescent diagnostic tools for detecting, identifying, and monitoring viral infections, bacterial infections, and cancers, all of which were later published.

Alongside his research, Omri enjoys teaching and studying organic chemistry. During his undergraduate studies he volunteered to teach chemistry to students with learning disabilities, and he is currently a teaching assistant in the advanced organic chemistry course and a lab instructor in the advanced organic chemistry student lab.

Evgenii Zheltonozhskii

PhD student of **Prof. Netanel Lindner**, Department of Physics, Technion, Israel Institute of Technology

Dissertation topic: Condensed Matter and Materials Physics

Evgenii was born in 1994 in Bryansk, Russia, and immigrated to Israel at age 14 in the framework of the NAALE program. After serving in the IDF, Evgenii joined the Technion Excellence Program, where he pursued studies in computer science, physics, and mathematics.

During his BSc studies, Evgenii worked on researching deep learning in Alex Bronstein's lab, and he also interned in Netanel Lindner's group, where he explored anomalous Floquet insulators, a quantum phase with unusual properties. Evgenii graduated *cum laude* with a double BSc in computer science and physics-mathematics. He began his MSc in computer science, focusing on reduced supervision in deep learning under the guidance of Alex Bronstein and Avi Mendelson. He once again graduated *cum laude*.

Evgenii then returned to physics to pursue his PhD under the supervision of Netanel Lindner. His primary research interest lies in strongly correlated phases, and particularly topological quantum computing. His research encompasses both theoretical condensed matter physics, such as predicting properties of experimental systems that can likely realize the required phases, and the influence of experimentally-relevant effects like dissipation on these systems, as well as quantum information, and particularly understanding how to perform computations efficiently using topological quantum computing. In addition to his work in topological quantum computing, Evgenii also seeks to apply his experience in machine learning to developing new numerical tools for studying quantum many-body problems.

ADAMS Fellows

2005–2023

2022–2023

Nitzan Aframian

PhD student of **Prof. Avigdor Eldar**,
Faculty of Life Sciences, Tel Aviv University

Dissertation topic: Communication and Cooperation in the Bacterio-phage Arms Race

Amir Burshtein

PhD student of **Prof. Moshe Goldstein**,
School of Physics and Astronomy, Tel Aviv University

Dissertation topic: Quantum Simulation of Many-Body Systems in Superconducting Circuits

Shir Cohen

PhD Student of **Prof. Idit Keidar**, Faculty of Computer Science,
Technion – Israel Institute of Technology

Dissertation topic: Distributed Services Under Attack

Matan Eilat

PhD student of **Prof. Bo'az Klartag**, Faculty of Mathematics and Computer Science,
Weizmann Institute of Science

Dissertation topic: Rigidity of Riemannian Embeddings of Discrete Metric Spaces

Omer Granek

PhD student of **Prof. Yariv Kafri**, Faculty of Physics,
Technion – Israel Institute of Technology

Dissertation topic: Bodies in an Active Fluid

Eliana Steinberg

PhD student of **Prof. Ofra Benny**, School of Pharmacy,
The Hebrew University of Jerusalem

Dissertation topic: Tumor-on-a-Chip: A Physiological Mimicking Method for Personalized Therapy in Cancer

2021–2022

Yonatan Hamo

PhD student of **Prof. Milko van der Boom** and **Dr. Michal Lahav**, Faculty of Chemistry, The Weizmann Institute of Science

Dissertation topic: Nanoscale Thin Films and Devices: The Effect of Light, Magnetic and Electric Field on Charge Storage and Release

Noam Harel

PhD student of **Prof. Adi Stern**,
Faculty of Life Sciences, Tel Aviv University

Dissertation topic: The Mutational Spectra of Covid-19 and other Coronaviruses and their Impact on Viral Transmission Patterns

Noy Nechmad

PhD Student of **Prof. Gabriel Lemcoff**, Chemistry Department,
Ben-Gurion University of the Negev

Dissertation topic: Influence of Anionic Ligands in Ruthenium Olefin Metathesis Catalysts

Inbal Weisbord

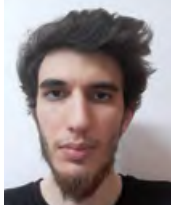
PhD student of **Dr. Tamar Segal-Peretz**, Wolfson Department of Chemical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Block Copolymer Assembly in Micro and Nano Particles

Eyal Weiss

PhD student of **Prof. Gal A. Kaminka**, Department of Computer Science,
Bar-Ilan University

Dissertation topic: Automated Planning with Runtime-Dependent Estimators



Yoav Zigdon

PhD student of **Prof. Ramy Brustein**, Physics Department,
Ben-Gurion University of the Negev

Dissertation topic: Strings Near the Hagedorn Temperature and Inflationary Spacetimes

2020–2021

Dalya Baron

PhD student of **Prof. Hagai Netzer**, Department of Astrophysics, School of Physics and Astronomy, Tel Aviv University

Dissertation topic: The Role of Active Galactic Nuclei Feedback in Different Evolutionary Stages of Their Host Galaxies

Gil Bashan

PhD student of **Prof. Avi Zadok**, Faculty of Engineering,
Bar-Ilan University

Dissertation topic: Opto-Mechanical Sensing Outside Standard Optical Fibers

Dana Binyamin

PhD student of **Dr. Omry Koren**, Azrieli Faculty of Medicine,
Bar-Ilan University

Dissertation topic: The Fountain of Youth: How the Gut Microbiota Shapes Host Aging through the Epigenome

Yonadav Barry Ginat

PhD student of **Prof. Vincent Desjacques** and **Prof. Hagai Perets,** Physics Department, Technion – Israel Institute of Technology

Dissertation topic: Astrophysical and Cosmological Progenitors of Gravitational-Wave Sources and Their Environments

Noam Lifshitz

PhD student of **Prof. Gil Kalai**, Institute of Mathematics,
The Hebrew University of Jerusalem

Dissertation topic: Analytic Methods in Probability and Combinatorics

Dan Liraz

PhD student of **Prof. Nir Tessler**, Electrical Engineering Department, The Sara and Moshe Zisapel Nano-Electronic Center, Technion – Israel Institute of Technology

Dissertation topic: Physical Processes in Photo-Electric Devices Based on Organic Materials and Solution-Processed Ones

Noam Shahar

PhD student of **Prof. Iftach Yacoby**, School of Plant Wise Sciences and Food Security, The George S. Weiss Faculty of Life Sciences, Tel Aviv University

Dissertation topic: Designing Synthetic Operons in Chloroplasts: Utilizing Operons for the Production of Biofuels and Other Foreign Pathways in Microalgal Plastids

2019–2020

Roie Dann

PhD student of **Prof. Ronnie Kosloff**, Fritz Haber Center for Molecular Dynamics, Institute of Chemistry, Faculty of Sciences and Mathematics, The Hebrew University of Jerusalem.

Dissertation topic: Dynamical Perspectives of Quantum Thermodynamic Resources and Their Utility

Ron Efrat

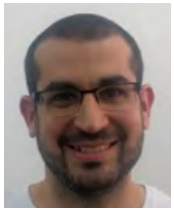
PhD student of **Dr. Oded Berger-Tal**, Marco and Louise Mitrani Department of Desert Ecology (MDDE), Sde-Boker Campus, Ben-Gurion University of the Negev

Dissertation topic: The Effects of Learning and Experience on the Survival and Migration Proficiencies of Captive-Bred and Wild Vultures

Renan Gross

PhD student of **Dr. Ronen Eldan**, Faculty of Mathematics and Computer Science, The Weizmann Institute of Science

Dissertation topic: Regularity and Mean-Fields Gibbs Distributions



Aviv Karnieli

PhD student of **Prof. Ady Arie**, Department of Physical Electronics, School of Electrical Engineering, Tel Aviv University

Dissertation topic: Quantum Effects of Photons and Electrons

Yaron Laufer

PhD student of **Prof. Sharon Gannot**, Faculty of Engineering, Bar-Ilan University

Dissertation topic: Bayesian Methods in Speech Processing

Lior Rotem

PhD student of **Prof. Gil Segev**, Rachel and Selim Benin School of Computer Science and Engineering, The Hebrew University of Jerusalem

Dissertation topic: Foundations and Applications of Cryptography for Messaging Platforms

Aseel Shomar

PhD student of **Prof. Naama Brenner**, The Wolfson Department of Chemical Engineering, and **Prof. Omri Barak**, The Rappaport Faculty of Medicine, Technion – Israel Institute of Technology

Dissertation topic: Cell States and Transitions in Development and Cancer: Insights from Learning Theory

Shai Tsesses

PhD student of **Prof. Guy Bartal**, Andrew & Erna Viterbi Faculty of Electrical Engineering, Technion – Israel Institute of Technology

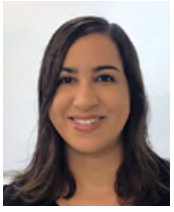
Dissertation topic: Topology and Angular Momentum Transfer Between Light and Matter in Nanoscale Photonic Systems

2018–2019

Adar Adamsky

PhD student of **Dr. Inbal Goshen**, Edmond and Lily Safra Center for Brain Sciences (ELSC), The Hebrew University of Jerusalem

Dissertation topic: Dynamic Changes in Long-Term Memory Network Organization Underlie Systems Consolidation



Ayelet Arazi

PhD student of **Prof. Ilan Dinstein**, Department of Brain and Cognitive Sciences, Ben-Gurion University of the Negev

Dissertation topic: Neural Variability and Its Relationship with Perception, Attention and Working Memory

Yaron Ben-Ami

PhD student of **Asst. Prof. Avshalom Manela**, Faculty of Aerospace Engineering, Technion – Israel Institute of Technology

Dissertation topic: Effect of Thermal Boundary Conditions on Heat and Mass Transfer Processes in Rarefied Gas Flows

Anael Ben-Asher

PhD student of **Prof. Nimrod Moiseyev**, Schulich Faculty of Chemistry, Technion – Israel Institute of Technology.

Dissertation topic: Non-Hermitian Quantum Scattering Theory for Cold Molecular Collision Experiments

Yoav Levine

PhD student of **Prof. Amnon Shashua**, School of Computer Science and Engineering, The Hebrew University of Jerusalem

Dissertation topic: Bridging Deep Learning and Many-Body Physics via Tensor Networks

Itai Linial

PhD student of **Prof. Re'em Sari**, Racah Institute of Physics, Faculty of Sciences and Mathematics, The Hebrew University of Jerusalem

Dissertation topic: Common-Envelope Evolution of Binary Stars and Planetary Dynamics

Eran Lustig

PhD student of **Prof. Mordechai (Moti) Segev**, Faculty of Physics, Technion – Israel Institute of Technology

Dissertation topic: Topological Photonics – Finding and Describing Topological Phases in Classical and Quantum Optical Systems

David Mass

PhD student of **Prof. Tali Kaufman**, Department of Computer Science, Bar-Ilan University

Dissertation topic: High-Dimensional Expanders in the Theory of Computation

2017–2018

Leon Anavy

PhD student of **Prof. Zohar Yakhini**, Computer Science Department,
Technion – Israel Institute of Technology

Dissertation topic: Computational Challenges in Synthetic Biology

Evgeniy Boyko

PhD student of **Prof. Moran Bercovici** and **Prof. Amir D. Gat**,
Faculty of Mechanical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Non-Uniform Electroosmotic Flow in Rigid and Elastic Microfluidic Configurations

Shachar Carmeli

PhD student of **Dr. Dmitry Gourevitch**, Department of Mathematics,
Weizmann Institute of Science

Dissertation topic: Harmonic Analysis on Spherical Spaces

Tuvia Gefen

PhD student of **Prof. Alex Retzker**, Racah Institute of Physics,
Faculty of Sciences and Mathematics, The Hebrew University of Jerusalem

Dissertation topic: Quantum Metrology and Computing with NV Centers and Trapped Ions

Bracha Laufer-Goldshtein

PhD student of **Prof. Sharon Gannot** (Bar-Ilan) and **Prof. Ronen Talmon** (Technion),
Faculty of Electrical Engineering, Bar-Ilan University

Dissertation topic: Manifold Learning Techniques for Source Localization and Array Processing

Ofer Neufeld

PhD student of **Prof. Oren Cohen**, Department of Physics,
Technion – Israel Institute of Technology

Dissertation topic: Generation of High Harmonics with Fully Tunable Polarization

Inbal Oz

PhD student of **Prof. Oded Hod** and **Prof. Avraham Nitzan**, School of Chemistry, Faculty of Exact Sciences, Tel Aviv University

Dissertation topic: Simulating Non-Equilibrium Thermodynamics in Open Quantum Systems

Or Yair

PhD student of **Prof. Ronen Talmon**, Viterbi Faculty of Electrical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Geometric Learning for Data-Driven Analysis of Dynamical Systems

2016–2017

Angelica Elkan

PhD student of **Prof. Boris Rybtchinski**, Department of Organic Chemistry, Weizmann Institute of Science

Dissertation topic: Hybrid Materials Based on Organic Nanocrystals and Carbon Nanotubes (CNTs)

Hezi Grisaro

PhD student of **Prof. Avraham N. Dancygier**, Faculty of Civil and Environmental Engineering, Technion – Israel Institute of Technology

Dissertation topic: Response of a Structural Element to Combined Loading of Explosion and Fragmentation Impacts

Yael Korem

PhD student of **Prof. Uri Alon**, Department of Molecular Cell Biology, Weizmann Institute of Science

Dissertation topic: Optimal Division of Labor in Cells and Tissues

Gali Noti

PhD student of **Prof. Noam Nisan**, School of Computer Science & Engineering and the Center for the Study of Rationality, The Hebrew University of Jerusalem

Dissertation topic: Behavioral Algorithmic Game Theory

Avia Raviv Moshe

PhD student of **Prof. Yaron Oz**, School of Physics and Astronomy, Faculty of Exact Sciences, Tel Aviv University

Dissertation topic: Lifshitz Quantum Field Theories, Gravity and Hydrodynamics

Asael Roichman

PhD student of **Prof. Haim Cohen**, Faculty of Life Sciences, Bar-Ilan University

Dissertation topic: Sirtuins in Aging and Metabolism

Alexander Shleyfman

PhD student of **Prof. Carmel Domshlak**, Faculty of Industrial Engineering and Management, Technion – Israel Institute of Technology

Dissertation topic: Symmetry Breaking and Operator Pruning in Classical Planning and Beyond

Amitai Yuval

PhD student of **Prof. Jake Solomon**, Department of Mathematics, The Hebrew University of Jerusalem

Dissertation topic: Geodesics of Positive Lagrangians in Almost Calabi-Yau Manifolds

2015–2016

Omri Azencot

PhD student of **Prof. Mirela Ben-Chen**, Computer Science Department, Technion – Israel Institute of Technology

Dissertation topic: Operator Representations in Geometry Processing

Izchak Baruch Goldshtein

PhD student of **Prof. Moshe Lewenstein** and **Prof. Ely Porat**, Department of Computer Science, Bar-Ilan University

Dissertation topic: Polynomial Lower Bounds on Algorithms and Data Structures

Barak Hirshberg

PhD student of **Prof. Benny Gerber**, School of Chemistry,
The Hebrew University of Jerusalem

Dissertation topic: Structure, Interactions and Dynamics of Many-Atom Systems

Michael Kalyuzhny

PhD student of **Prof. Ronen Kadmon**, Department of Ecology, Evolution and Behavior, The Hebrew University of Jerusalem, and **Prof. Nadav Shnerb**, Department of Physics, Bar-Ilan University

Dissertation topic: A Theoretical and Empirical Analysis of Factors Affecting the Dynamics and Structure of Ecological Communities.

Michal Natan

PhD student of **Prof. Ehud Banin** and **Prof. Shlomo Margel**,
Institute of Nanotechnology and Advanced Materials, Bar-Ilan University

Dissertation topic: Synthesis of Rechargeable N-halamine Nanoparticles and Determination of Their Antibacterial and Antibiofilm Activities

Eran Sagi

PhD student of **Prof. Yuval Oreg**, Department of Condensed Matter Physics,
Weizmann Institute of Science

Dissertation topic: Strongly Interacting Topological Phases

Ido Sagi

PhD student of **Prof. Nissim Benvenisty**, Azrieli Center for Stem Cells and Genetic Research, The Hebrew University of Jerusalem

Dissertation topic: Genetic and Epigenetic Regulation in Human Pluripotent Stem Cells

Yinon Spinka

PhD student of **Prof. Ron Peled**, Department of Pure Mathematics,
Tel Aviv University

Dissertation topic: Mathematical Models of Statistical Mechanics

2014–2015

Rivka Bekenstein

PhD student of Prof. Mordechai Segev, Faculty of Physics,
Technion – Israel Institute of Technology

Dissertation topic: Gravitational Phenomena and Complex Wavepackets in Nonlinear Optical Systems

Sharon Fleischer

PhD student of **Dr. Tal Dvir**, Department of Molecular Microbiology and Biotechnology, Faculty of Life Science, Tel Aviv University

Dissertation topic: Engineering 3D Cardiac Stem Cell Based Patches for Treating Heart Disease

Yannai A. Gonczarowski

PhD student of **Prof. Sergiu Hart** and **Prof. Noam Nisan**, Institute of Mathematics, School of Computer Science & Engineering and Center for the Study of Rationality, The Hebrew University of Jerusalem

Dissertation topic: Aspects of Complexity and Simplicity in Economic Mechanisms

Ouri Karni

PhD student of **Prof. Gadi Eisenstein**, Faculty of Electrical Engineering,
Technion – Israel Institute of Technology

Dissertation topic: Ultra-Fast Non-Linear Dynamic Processes in Nanometric Semiconductor Lasers and Optical Amplifiers

Jonathan Mosheiff

PhD student of **Prof. Sharon Gannot** (Bar-Ilan) and **Prof. Ronen Talmon** (Technion), Faculty of Electrical Engineering, Bar-Ilan University

Dissertation topic: Forbidden Induced Subgraphs and their Structural Implications

Omri Ram

PhD student of **Prof. Oren Sadot**, Department of Mechanical Engineering,
Ben-Gurion University of the Negev

Dissertation topic: Experimental Study of Shock and Blast Wave Interaction with a Rigid Porous Medium

Einat Seidel Posner

MD/PhD student of **Prof. Ofer Mandelboim**, Lautenberg Center for Immunology and Cancer Research, The Hebrew University of Jerusalem

Dissertation topic: Viral Immune Evasion Mechanisms

Eliran Subag

PhD student of **Prof. Ofer Zeitouni**, Department of Mathematics, Weizmann Institute of Science

Dissertation topic: Extreme Values and Extremal Processes of Gaussian Fields

2013–2014

Ariel Afek

PhD student of **Dr. David Lukatsky**, Department of Chemistry, Ben-Gurion University of the Negev

Dissertation topic: Design Principles and Consequences of Nonconsensus Protein-DNA Binding

Yoav Bauman

PhD student of **Prof. Ofer Mandelboim**, Lautenberg Center for Immunology and Cancer Research, The Hebrew University of Jerusalem

Dissertation topic: Pathogen Recognition by Natural Killer Cells

Ronen Dar

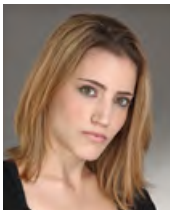
PhD student of **Prof. Meir Feder** and **Prof. Mark Shtaif**, School of Electrical Engineering, Tel Aviv University

Dissertation topic: Information Theory in Optical-Fiber Communictations

Anna Frishman

PhD student of **Prof. Gregory Falkovich**, Department of Physics of Complex Systems, Weizmann Institute of Science

Dissertation topic: A Search for Statistical Laws in Turbulent Systems



Livnat Jerby Arnon

PhD student of **Prof. Eytan Ruppin**, School of Computer Science, Tel Aviv University

Dissertation topic: Genome-Scale Modeling of Cancer Genetics and Metabolism Toward the Identification of Selective Anticancer Treatments

Assaf Manor

PhD student of **Prof. Carmel Rotschild**, Faculty of Mechanical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Thermodynamic Light Management for Third Generation Photovoltaics

Sivan Refaely-Abramson

PhD student of **Prof. Leeor Kronik**, Department of Materials and Interfaces, Weizmann Institute of Science

Dissertation topic: A Generalization of the Optimally-Tuned Range-Separated Hybrid Scheme to the Solid-State

Liran Rotem

PhD student of **Prof. Vitali Milman**, School of Mathematical Sciences, Tel Aviv University

Dissertation topic: Asymptotic Geometric Analysis: Log-Concavity, α-Concavity, Quasi-Concavity

Eitan Schechtman

PhD student of **Prof. Hagai Bergman**, The Interdisciplinary Center for Neural Computation (ICNC), The Hebrew University of Jerusalem

Dissertation topic: The Neural Correlates of Basal Ganglia Abnormalities in the Chronic Phencyclidine (PCP) Primate Model of Schizophrenia

Avishay Tal

PhD student of **Prof. Ran Raz**, Department of Computer Science and Applied Mathematics, Weizmann Institute of Science

Dissertation topic: Analysis of Boolean Functions in Theoretical Computer Science

2012–2013

Tslil Ast

PhD student of **Dr. Maya Schuldiner**, Department of Molecular Genetics, Weizmann Institute of Science

Dissertation topic: Uncovering the Translocation and Quality Control Mechanisms of Glycosylphosphatidylinositor (GPL) Anchored Proteins

Assaf Ben Moshe

PhD student of **Prof. Gil Markovich**, Department of Chemical Physics, Tel Aviv University

Dissertation topic: Chiroptical Effects Induced in Metal and Semiconductor Nanoparticles

Miri Krupkin

PhD student of **Prof. Ada Yonath**, Department of Structural Biology, Weizmann Institute of Science

Dissertation topic: Towards the Determination of the Structure of the Mycobacterium Smegmatis Ribosome and Studies on the Properties of the Prebiotic Ribosome

Nir Lazarovich

PhD student of **Prof. Michah Sageev**, Department of Mathematics, Technion – Israel Institute of Technology

Dissertation topic: Non-Positively Curved Homogeneous Polygonal Complexes

Or Ordentlich

PhD student of **Prof. Uri Erez**, School of Electrical Engineering, Tel Aviv University

Dissertation topic: Robust Lattice Schemes for Multi-User Communication Networks

Liel Sapir

PhD student of **Prof. Daniel Harries**, Institute of Chemistry and The Fritz Haber Research Center, The Hebrew University of Jerusalem

Dissertation topic: Modeling Osmolyte-Induced Conformational Changes in Biomacromolecules

David Tsivion

PhD student of **Prof. Ernesto Joselevich**, Department of Materials and Interfaces, Weizmann Institute of Science

Dissertation topic: Guided Growth of Horizontal Nanowires

Erez Zohar

PhD student of **Prof. Benni Reznik**, School of Physics and Astronomy, Tel Aviv University

Dissertation topic: Quantum Simulations of Quantum Field Theories

2011–2012

Dmitry Batenkov

PhD student of **Prof. Yosef Yomdin**, Department of Mathematics, Weizmann Institute of Science

Dissertation topic: Algebraic Reconstruction of Geometric Models from Integral Measurements

Avraham Braun

PhD student of **Prof. Jeffrey Gordon**, Department of Solar Energy and Environmental Physics, Ben-Gurion University of the Negev

Dissertation topic: The Physics of High Carrier Injection Rates in Concentrator Photovoltaics

Sophia Buhbut

PhD student of **Prof. Arie Zaban**, Institute of Chemistry, Bar-Ilan University

Dissertation topic: FRET Mechanism Based on Nanomaterials in Dye-Sensitized Solar Cells: Synthesis, Characterization and Applications

Amir Erez

PhD student of **Prof. Yigal Meir**, Department of Physics, Ben-Gurion University of the Negev

Dissertation topic: Superconductor to Insulator Transition in Thin Films

Daphna Nachmani

PhD student of **Prof. Ofer Mandelboim**, Lautenberg Center for Immunology and Cancer Research, The Hebrew University of Jerusalem

Dissertation topic: MicroRNAs in Immune Regulation: Viral Mimicry of Host Mechanisms

Amir Nevet

PhD student of **Prof. Meir Orenstein**, Department of Electrical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Two-Photon Processes in Micro and Nano Semiconductor Structures

Doron Puder

PhD student of **Prof. Nati Linial**, Einstein Institute of Mathematics, The Hebrew University of Jerusalem

Dissertation topic: The Combinatorial, Algebraic and Topological Aspects of Word Maps

Eran Small

PhD student of **Prof. Yaron Silberberg**, Department of Physics of Complex Systems, Weizmann Institute of Science

Dissertation topic: Statistical Properties of Light Propagating in Non-Linear Systems

Hadas Soifer

PhD student of **Prof. Nirit Dudovich**, Department of Physics of Complex Systems, Weizmann Institute of Science

Dissertation topic: Probing Electronic Wavefunctions via High Harmonic Generation

Amir Wand

PhD student of **Prof. Sanford Ruhman**, Department of Chemistry, The Hebrew University of Jerusalem

Dissertation topic: Investigation of the Photochemistry of Retinal Proteins and Model Systems Using Novel Techniques of Ultrafast Spectroscopy: Resolving the Dynamics as Well as Structural Information of the Excited States

2010–2011

Avital Adler

PhD student of **Prof. Hagai Bergman**, Interdisciplinary Center for Neural Computation (ICNC), The Hebrew University of Jerusalem

Dissertation topic: Value Encoding in the Striatum in View of Serotonin Neurotransmission

Leonid Barenboim

PhD student of **Prof. Michael Elkin**, Department of Computer Science, Ben-Gurion University of the Negev

Dissertation topic: Efficient Network Utilization in Locality-Sensitive Distributed Algorithms

Arren Bar-Even

PhD student of **Prof. Ron Milo**, Department of Plant Sciences, Weizmann Institute of Science

Dissertation topic: The Design, Analysis and Testing of Synthetic Carbon Fixation Cycles

Omer Bobrowski

PhD student of **Prof. Robert J. Adler**, Department of Electrical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Some Topics in the Algebraic Topology of Random Fields

Ronit Bustin

PhD student of **Prof. Shlomo Shamai**, Department of Electrical Engineering, Technion – Israel Institute of Technology

Dissertation topic: The I-MMSE Approach for Multi-Terminal Problems in the Gaussian Regime

Klim Efremenko

PhD student of **Prof. Amnon Ta-Shma** and **Prof. Oded Regev**, Department of Computer Science, Tel Aviv University

Dissertation topic: Algebraic Constructions in Computational Complexity

Yoav Livneh

PhD student of **Prof. Adi Mizrahi**, Department of Neurobiology,
The Hebrew University of Jerusalem

Dissertation topic: Adult Neurogenesis: From Synapse Formation Through Sensory Coding to Animal Behavior

Itai Roffman

PhD student of **Prof. Eviatar Nevo** and **Prof. Avraham Ronin**,
The International Graduate Center of Evolution, University of Haifa

Dissertation topic: Studying Suite of *Homo* Traits in *Pan*: Supporting Cultural and Genetic Evidence for their Inclusion in the *Homo* Genus

Yoav Oved Rosenberg

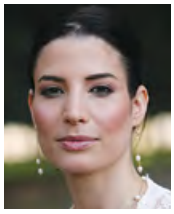
PhD student of **Prof. Jiwchar Ganor**, Department of Geological and Environmental Sciences,
Ben-Gurion University of the Negev

Dissertation topic: The Fate of Radium in Evaporitic Systems

Osip Schwartz

PhD student of **Prof. Dan Oron**, Department of Physics of Complex Systems,
Weizmann Institute of Science

Dissertation topic: Nonlinear Microscopy with Nanoparticles



Adi Sheinfeld

PhD student of **Prof. Avishay Eyal**, Electrical Engineering,
Tel Aviv University

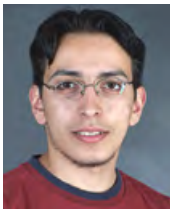
Dissertation topic: Optical Detection of Alzheimer's Disease Via Ocular Spectroscopy

Avital Swisa

PhD student of **Prof. Yuval Dor**, Department of Developmental Biology and Cancer Research,
Faculty of Medicine, The Hebrew University of Jerusalem

Dissertation topic: Role of LKB1 in Pancreatic Beta Cell Dynamics

2009–2010



Monther Abu-Remaileh

PhD student of **Prof.Yehudit Bergman**, Department of Genetics,
The Hebrew University of Jerusalem

Dissertation topic: Understanding the Molecular Mechanism of Oct-3/4 Oncogenicity

Danny Ben-Zvi

PhD student of **Prof. Naama Barkai** and **Prof. Ben-Zion Shilo**, Department of Molecular Genetics, Weizmann Institute of Science

Dissertation topic: Scaling and Robustness in Embryonic Development

Oded Berger-Tal

PhD student of **Prof. David Saltz**, Department of Desert Ecology,
Ben-Gurion University of the Negev

Dissertation topic:Movement Ecology of Persian Fallow Deer

Ronen Gabizon

PhD student of **Prof. Assaf Friedler**, Institute of Chemistry,
The Hebrew University of Jerusalem

Dissertation topic: Activating Proteins by Shifting their Oligomerization Equilibrium: A New Approach to Drug Design

Alex Hayat

PhD student of **Prof. Meir Orenstein**, Faculty of Electrical Engineering,
Technion – Israel Institute of Technology

Dissertation topic: Applications of Multi-Photon Processes for Semiconductor Quantum Photonics

Efrat Mashiach

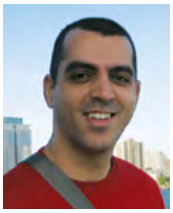
PhD student of **Prof. Haim Wolfson** and **Prof. Ruth Nussinov**, School of Computer Science, Tel Aviv University

Dissertation topic: Structural Bioinformatics: Flexible Molecular Docking

Or Meir

PhD student of **Prof. Oded Goldreich**, Department of Computer Science and Applied Mathematics,, Weizmann Institute of Science

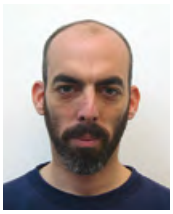
Dissertation topic: Combinatorial Construction of Probabilistic Proof Systems



Moshe Mishali

PhD student of **Prof. Yonina Eldar**, Faculty of Electrical Engineering, Technion – Israel Institute of Technologyy

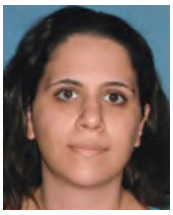
Dissertation topic: Compressive Processing of Analog Signals



Uri Roll

PhD student of **Prof. Lewi Stone**, Department of Zoology, Tel Aviv University

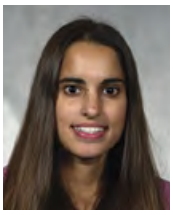
Dissertation topic: Spatial Perspectives of Epidemiological and Ecological Problems



Sivan Sabato

PhD student of **Prof. Naftali Tishby**, School of Computer Science and Engineering, The Hebrew University of Jerusalem.

Dissertation topic: Supervised Learning with Partial Information



Efrat Shema

PhD student of **Prof. Moshe Oren**, Department of Molecular Cell Biology, Weizmann Institute of Science

Dissertation topic: RNF20 as a Novel Tumor Suppressor: Exploring its Roles in Transcriptional Regulation, Formation and Progression of Cancer, Senescence and Development

2008–2009

Keren Censor

PhD student of **Prof. Hagit Attiya**, Computer Science Department, Technion – Israel Institute of Technology

Dissertation topic: Probabilistic Methods in Distributed Computing

Emanuele Dalla Torre

PhD student of **Dr. Ehud Altman**, Department of Condensed Matter Physics, Weizmann Institute of Science

Dissertation topic: Strongly Correlated States in Ultra-Cold Atoms

Noam Gross

PhD student of **Prof. Lev Khaykovich**, Department of Physics, Bar-Ilan University

Dissertation topic: Nonlinear Dynamics and Interactions of Bright Matter-Wave Solitons in a Bose-Einstein Condensate.

Ishay Haviv

PhD student of **Prof. Oded Regev**, School of Computer Science, Tel Aviv University

Dissertation topic: Combinatorics and Theoretical Aspects of Computer Sciences: Complexity of Lattice Problems

Amir Ingber

PhD student of **Prof. Meir Feder**, School of Electrical Engineering, Tel Aviv University

Dissertation topic: Coding Methods and Bounds for the Bandwidth - Limited Regime

Mor Mordechai Peretz

PhD student of **Prof. Shmuel Ben-Yaakov**, Department of Electrical & Computer Engineering, Ben-Gurion University of the Negev

Dissertation topic: Time Domain Design of Digital Controllers for PWM Converters

Michael Orlov

PhD student of **Prof. Moshe Sipper**, Department of Computer Science, Ben-Gurion University of the Negev

Dissertation topic: Evolutionary Computation

Eran Segev

PhD student of **Prof. Eyal Buks**, Faculty of Electrical Engineering, Technion – Israel Institute of Technology

Dissertation topic: Back-Reaction Cooling and Quantum Phenomena in Nanomechanical Resonators

Gil Segev

PhD student of **Prof. Moni Naor**, Department of Computer Science and Applied Mathematics, Weizmann Institute of Science

Dissertation topic: The Complexity of Resilient Sketches

Reut Shema

PhD student of **Prof. Yadin Dudai**, Department of Neurobiology, Weizmann Institute of Science

Dissertation topic: The Role of PKMzeta in Long Term Memory Storage in the Rat Brain

2007–2008

Avraham Ben-Aroya

PhD student of **Prof. Oded Regev** and **Prof. Amnon Ta-Shma**, School of Computer Science, Tel Aviv University

Dissertation topic: Quantum Computation and Quantum Information

Shai Carmi

PhD student of **Prof. Shlomo Havlin**, Department of Physics, Bar-Ilan University

Dissertation topic: Complex Networks: Theory and Applications

Chen Davidovich

PhD student of **Prof. Ada Yonath**, Department of Structural Biology, Weizmann Institute of Science

Dissertation topic: Ribosome Structure and Function

Shahar Dobzinski

PhD student of **Prof. Noam Nisan**, School of Computer Science and Engineering,
The Hebrew University of Jerusalem

Dissertation topic: The Power of Approximations in Mechanism Design

Moshe Goldstein

PhD student of **Prof. Richard Berkovits**, Department of Physics,
Bar-Ilan University

Dissertation topic: Interference Effects in Interacting Mesoscopic Systems

Amir Goren

PhD student of **Prof. Gil Ast**, Department of Human Molecular Genetics and Biochemistry,
Tel Aviv University

Dissertation topic: Inferring Regulatory Elements of Splicing Using Comparative Genomics

Dan Hermelin

PhD student of **Prof. Gad M. Landau**, Department of Computer Science,
University of Haifa

Dissertation topic: Algorithmic Challenges in RNA Comparative Analysis

Yoav Lahini

PhD student of **Prof. Yaron Silberberg**, Faculty of Physics,
Weizmann Institute of Science

Dissertation topic: Disordered Nonlinear Systems

Guy Ron

PhD student of **Prof. Eliezer Piasetzky**, Department of Physics,
Tel Aviv University

Dissertation topic: Measurement of the Proton Elastic Form Factors at Low Q2

Avraham Saig

PhD student of **Prof. Ehud Ahissar** and **Dr. Amos Arieli**, Department of Neurobiology, Weizmann Institute of Science

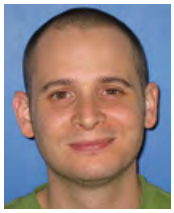
Dissertation topic: Guiding Principles for Sensory Substitution: From Vision to Touch

Alexander Sodin

PhD student of **Prof. Vitali Milman**, School of Mathematical Sciences, Tel Aviv University

Dissertation topic: Probabilistic Methods in Asymptotic Geometric Analysis

2006–2007



Haim Beidenkopf

PhD student of **Prof. Eli Zeldov**, Faculty of Physics, Weizmann Institute of Science

Dissertation topic: Vortex Thermodynamics in High-Temperature Superconductors

Liat Benmoyal Segal

PhD student of **Prof. Hermona Soreq**, Department of Biological Chemistry, and **Prof. Hagai Bergman**, Department of Physiology, The Hebrew University of Jerusalem

Dissertation topic: The Role of the Cholinergic System in the Pathogenesis of Parkinson's Disease

Yael Elbaz

PhD student of **Prof. Shimon Schuldiner**, Department of Biological Chemistry, The Hebrew University of Jerusalem

Dissertation topic: Structure-Function Study of Multidrug Transporters

Olga Khersonsky

PhD student of **Prof. Dan Tawfik**, Faculty of Chemistry, Weizmann Institute of Science

Dissertation topic: Mechanistic Enzymology: From Classical Tools to Directed Evolution

Dana Moshkovitz

PhD student of **Prof. Ran Raz**, Faculty of Mathematics and Computer Science, Weizmann Institute of Science

Dissertation topic: Probabilistically Checkable Proofs

Ariel Procaccia

PhD student of **Prof. Jeffrey S. Rosenschein**, School of Computer Science and Engineering, The Hebrew University of Jerusalem

Dissertation topic: The Theoretical Foundation of Multi-Agent Systems (MAS)

Carmel Rotschild

PhD student of **Prof. Moti Segev**, Physics Department, Technion – Israel Institute of Technology

Dissertation topic: Soliton Interactions in Nonlocal Nonlinear Media

Ofer Shayevitz

PhD student of **Prof. Meir Feder**, School of Electrical Engineering, Tel Aviv University

Dissertation topic: Universal Communications with Feedback

Amir Shlomai

PhD student of **Prof. Yosef Shaul**, Faculty of Biochemistry, Weizmann Institute of Science

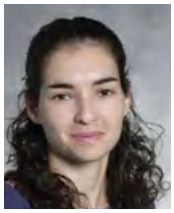
Dissertation topic: Metabolic Alterations in the Liver and Hepatitis B Virus Gene Expression

Noam Stern

PhD student of **Prof. Ofer Mandelboim**, Lautenberg Center for Immunology and Cancer Research, The Hebrew University of Jerusalem

Dissertation topic: Natural Killer (NK) Cells

2005–2006



Yael Eshed-Eisenbach

PhD student of **Prof. Elior Peles**, Department of Molecular Cell Biology, Weizmann Institute of Science

Dissertation topic: Neuro-Glial Interactions

Nathan Keller

PhD student of **Prof. Gil Kalai**, Einstein Institute of Mathematics, The Hebrew University of Jerusalem

Dissertation topic: Probabilistic Combinatorics and Its Relations with Harmonic Analysis

Tal Lev-Ami

PhD student of **Prof. Shmuel Sagiv**, School of Computer Science, Tel Aviv University

Dissertation topic: Efficient Transformers for the Verification of Heap Manipulating Programs

Raz Palty

PhD student of **Dr. Israel Sekler**, Department of Physiology and Cell Biology, Ben-Gurion University of the Negev

Dissertation topic: Characterization of the Novel Exchanger NCLX – A FLJ2233 Gene Product

Sharon Shwartz

PhD student **Prof. Moti Segev**, Physics Department, Technion – Israel Institute of Technology

Dissertation topic: Nonlinear Optics in CZT:V

האקדמיה הלאומית הישראלית למדעים
المجمع الوطني الإسرائيلي للعلوم والآداب
THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES

The Israel Academy of Sciences and Humanities
P.O.Box 4040 Jerusalem 9104001 | Tel 972-2-5676207 | E-mail batsheva@academy.ac.il

www.adams.academy.ac.il