

האקדמיה הלאומית הישראלית למדעים The Israel Academy of Sciences and Humanities





ADAMS CONFERENCE 2016 2016 כנס אדמס

January 2016 ינואר

ADAMS CONFERENCE

Tuesday, January 19, 2016

כנס אדמס

יום שלישי, ט' בשבט, תשע״ו

Morning Session

	Morning Session	מושב בוקר
9:30-10:00	Refreshments in Lobby	כיבוד קל
10:00-10:10	Prof. Nili Cohen, President of the Academy – Opening	פרופ' נילי כהן, נשיאת האקדמיה, דברי פתיחה
10:10-10:20	Prof. Moti Segev, Academy Member, Chair of the Adams Committee – Introduction	פרופ׳ מוטי שגב , חבר אקדמיה, יו״ר ועדת מלגות אדמס - הקדמה
10:20-11:05	Prof. Nachum Ulanovsky, Professor of Behavioral Neuroscience at the Weizmann Institute on "Towards a Natural Neuroscience of Navigation in Bats"	<mark>פרופ׳ נחום אולנובסקי,</mark> פרופסור לנוירוביולוגיה במכון ויצמן למדע, על ״הבסיס העצבי של ניווט טבעי בעטלפים״
11:05-11:15	Questions and Answers	שאלות ותשובות
11:15-12:00	Prof. Nirit Dudovich, Member of the Israel Young Academy, Professor of Physics, the Weizmann Institute of Science, on "Ultrafast Photography"	פרופ׳ נירית דודוביץ, חברת האקדמיה הישראלית הצעירה, פרופסור לפיסיקה במכון ויצמן למדע, על ״צילום הסרטים המהירים ביותר בטבע״
12:00-12:10	Questions and Answers	שאלות ותשובות
12:10-13:30	Lunch Afternoon Session	ארוחת צהריים מושב אחה״צ
13:30-15:00	Poster Competition	תחרות פוסטרים
15:00-15:45	Prof. Ruth Gavison, Academy Member, Professor of Law, the Hebrew University of Jerusalem, on "Constitutional Entrenchment of Israel's Vision?"	פרופ׳ רות גביזון, חברת אקדמיה, פרופסור למשפטים באוניברסיטה העברית, על ״עיגון חוקתי לחזון המדינה?״
15:45-16:00	Questions and Answers	שאלות ותשובות
16:00	Prizes	פרסים





Greetings from Professor Mordechai (Moti) Segev

Academy Member, Chair of the Steering and Granting Committee

Warm greetings to all the current Adams Fellows, Adams Alumni, Adams Committee, Members of the Israel Academy of Sciences and Humanities, to its President Prof. Nili Cohen, and most of all to the generous Adams Family.

The Adams Fellowship Program attempts to select our very best PhD students, with the clear goal of nurturing the next generation of leading researchers in Israel. Israel is blessed with excellent young researchers, who tend to be more mature and knowledgeable than PhD students in other countries, partly due to the army service, and partly because the respect for knowledge and encouraging curiosity are part of our culture. Very often, our PhD students are also highly motivated, and they tend to have the drive to go after original problems. All of these place them in high demand for postdoc positions at the best institutions, which later on gives them an excellent starting point to become world-leading researchers. I am certain that all of this is of no surprise to you. I would therefore like to discuss the stage after next: when you finish your postdoctoral period and consider the options

Naturally, we – your mentors – those who educated you, taught you how to do research, served as role models for you, would want you to return to Israel after a successful postdoc period abroad. You are our next generation: those who will lead research - at universities, at companies, and at defense-related institutions. The future of our country depends on you and your fellow students, who will form the scientific leadership years ahead. It is our hope that each of you will become a world leader in her/his respective area. Most certainly, many among you will have excellent career opportunities abroad, to become professors at places like Princeton and Harvard. In coming to make that big decision – where to start your careers as independent researchers – we very much hope that you will consider all options but eventually return to Israel, and become world leaders in your areas while having research groups here, in Israel. Indeed, this will be a tough decision, because it is easier to do world-class research at the top universities abroad. It is considerably harder to do it from here, but it is possible.

I am proud to say that today we have a good number of researchers who are constantly being recruited by these famous universities – but they prefer to stay here, and contribute to our society, to the wellbeing of our nation. We hope you will be one of those. And when the time comes, it will be one of you who will write such a greeting for the Adams fellows some years ahead. We hope that – ten years from now we will look around and see that all of you have become faculty members in Israel.

I would also like to take this opportunity to thank the Adams Family and the Israel National Academy leadership for their support and encouragement. Finally, I would like to thank a special person who has shown exceptional leadership and generosity: Professor Ruth Arnon, the former President of the Israel Academy of Sciences and Humanities. Professor Ruth Arnon, is widely known as the "Mother of Copaxone": the medication she invented for treating multiple sclerosis, which has made her world famous. Ruthie has just retired from being the President of our Academy, and – upon her retirement – she donated a special fellowship to support excellent women researchers, alumni of the Adams Program, to help sponsor their postdoctoral period abroad. We thank you wholeheartedly, Ruthie, for this fellowship and for many years of leadership.

I wish you all success in your research, and hope that this tradition of family-like gathering will continue for years to come.

Yours,

m. segl Moti Segev





Prof. Nachum Ulanovsky

Department of Neurobiology, Weizmann Institute of Science

Born in Moscow, Prof. Nachum Ulanovsky made Aliyah to Israel as a baby. He received his BSc *magna cum laude*

in physics at Tel-Aviv University (1992), served for five years in the IDF, and, in parallel, continued his graduate studies in biology (focusing on neuroscience) at the Weizmann Institute of Science and at Tel-Aviv University. In 2004, he completed his PhD in neuroscience and neural computation *summa cum laude* at the Hebrew University of Jerusalem. From 2004-2007, he was a postdoctoral fellow in the Department of Psychology and Institute for Systems Research at the University of Maryland. He joined the Weizmann Institute in 2007.

Prof. Ulanovsky is interested in the neural basis of behavior and the neurobiology of learning and memory. His main area of study is how three-dimensional, naturalistic space is represented and remembered in the mammalian brain. To this end, he uses bats as animal models (particularly Egyptian fruit bats), and is fitting them with devices which allow him to measure the activity of individual neurons in the brain of flying bats. He also fitted fruit bats with the smallest GPS devices in the world to track their flight, in a study which demonstrated that bats use visual information from a "bird's eye view" to construct a cognitive map of a 100-km-wide area. More recently, Prof. Ulanovsky's group was able to conduct the first ever neural recordings in flying animals, which allowed them to describe the coding of 3D maps and 3D compasses in the brain. The findings of the Ulanovsky group over the last 8 years have been published in the word's top journals, including *Nature* (twice), *Science* (twice), *PNAS* (twice), *PLoS Biology, Journal of Neuroscience*, and others.

He was recently the recipient of the SfN Young Investigator Award from the Society for Neuroscience (2015). Among his other honors and awards are the Bernard Katz Prize in Neuroscience awarded by the Alexander von Humboldt Foundation (2013), the Krill Prize for the Advancement of Science from the Wolf Foundation (2012), and the Sieratzki Prize for Advances in Neuroscience (2011).



Prof. Nirit Dudovich

Department of Physics of Complex Systems Weizmann Institute of Science

Prof. Nirit Dudovich is an Associate Professor at the Department of Physics of Complex Systems at the

Weizmann Institute. She completed her PhD in 2004, focusing on studying quantum coherent control in nonlinear optics. In 2004 she received the Rothschild Fellowship for postdoctoral studies and joined the group Prof. Paul Corkum. In 2007 she joined the Weizmann Institute of Science and established a research group for attosecond science in Israel.

Prof. Dudovich works on generating and applying ultra-short pulses of laserproduced light to probe extremely fast processes in nature, atoms, and molecules. Using these light bursts, she is able to capture snapshots of electron dynamics in atomic and molecular systems. Prof. Nirit Dudovich received the Alon award (2008), the IUPAP Young Scientist Prize (2012), the IPS Prize for Young Physicist (2012), and the Krill prize for excellence in scientific research (2013). In 2013 she received the ERC Starting Investigator Grant. In 2015 she was elected to the Young Israel Academy of Sciences and Humanities.

Adams Conference 2016





Prof. Ruth Gavison

Academy Member, Professor of Law, the Hebrew University of Jerusalem

Prof. Ruth Gavison is a Professor Emerita holding the Haim H. Cohn Chair of Human Rights, in the Faculty of Law of

the Hebrew University of Jerusalem. She was born in Jerusalem in 1945, and is a graduate of the Hebrew Reali School in Haifa (Science Division). She spent her IDF service in the Nachal (mostly as a counsellor in the Hebrew Scouts movement). Professor Gavison holds an LLB in Law (*cum laude*), a B.A. in Philosophy and Economics, and an LLM in Law (*summa cum laude*) from the Hebrew University and a D.Phil from the University of Oxford, England.

Her areas of research include the Philosophy of Law, Constitutional Law, Human Rights and the Role of Law in Society and the State. Professor Gavison published a large number of essays – in Israel and abroad – in such fields as Legal Theory, the Protection of Privacy, Constitutions and Constitution-making, Law and Religion, Democracy and Human Rights, and Israel as a Jewish and Democratic State. Professor Gavison also studies the institutional aspects of the relations between law, society and politics and wrote on the courts' role in rifted democracies and on institutions such as Commissions of Inquiry and the Attorney General.

Recognition of her academic work brought her numerous awards, among them the Emeth Prize (2003), the Cheshin Prize (2009) and the Israel Prize (2011). In addition to her academic work, Professor Gavison was vigorously involved in numerous public activities: she served as Chairperson of the Board and President of the Association for Civil Rights in Israel; In the Gavison-Medan Covenant she co-authored a framework for coexistence between religious and secular Jews in Israel; She served as senior advisor for the preparation of a constitution by the committee headed by M.K. Michael Eitan; and she is the Founding President of Metzilah: the Center of Zionist, Jewish, Liberal and Humanist Thought.

Professor Gavison served as a member of numerous public committees, among them the Winograd Commission to investigate the Second Lebanon War. Recently she was appointed by then Minister of Justice Livni to make recommendations concerning the initiative to legislate the Basic Law: Israel as the nation-state of the Jewish People, and submitted her recommendations in November 2014.

Pictures of Adams Seminar, May 2015

