האקדמיה הלאומית הישראלית למדעים דאקדמיה וואקדמיה הישראלית למדעים דאפו אקדמיה הלאומית הישראלית למדעים



כנס אדאמס לשנת 2012 האקדמיה הלאומית הישראלית למדעים

ADAMS CONFERENCE FOR 2012

The Israel Academy of Sciences and Humanities

January 2012 ינואר



ADAMS CONFERENCE FOR 2012 כנס אדאמס תשע"ב

כנס אדאמס

מושב בוקר

יום ראשון, י״ג בטבת, תשע״ב

ADAMS CONFERENCE

Sunday, January 8, 2012

Morning Session

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כיבוד קל	09:30-09:50	Refreshments in Lobby
פרופ' רות ארנון, נשיאת האקדמיה דברי פתיחה	09:50-10:00	Prof. Ruth Arnon , President of the Academy – Opening Remarks
פרופ' חיים סידר, חבר אקדמיה, יו״ר ועדת מלגות אדאמס – הקדמה	10:00-10:10	Prof. Chaim Cedar , Academy Member, Chair of the Adams Committee — Introduction
פרופ' אהוד בכר, ראש מכון אשר לחק החלל של הטכניון על ״תצפיות על היקום האלים בקרינת רנטגן״	10:10-11:00	Prof. Ehud Behar , Head of the Technion's Asher Space Research Institute, on "Observing the Violent Universe with X-Ray Vision"
שאולות ותשובות	11:00-11:15	Questions and Answers
פרופ' דוד שולמן, חבר אקדמיה, פרופסור של לימודים הומאניים באוניברסיטה העברית על "דקדוק האהבה בשירה הטמילית העתיקה"	11:15-12:00	Prof. David Shulman , Academy Member, Professor of Humanistic Studies at the Hebrew University, on "The Grammar of Love in Ancient Tamil Poetry"
שאלות ותשובות	12:00-12:15	Questions and Answers
ארוחת צהריים	12:15-13:30	Lunch
מושב אחה"צ		Afternoon Session
רונן גביזון, מלגאי אדאמס, על ״אוליגומריזציה של חלבונים ופיתוח תרופות״	15:30-14:00	Ronen Gabizon, Adams Fellow, on "Protein Oligomerization and Drug Design"
שאלות ותשובות	14:00-14:15	Questions and Answers
איתי רופמן, מלגאי אדאמס, על "חקו מגוון תכונות אנושיות קדומות אצל שימפנזים"	14:15-14:45	Itai Roffman , Adams Fellow, on "Studying Suite of Early Homo Traits in Pan (chimpanzees)"
שאלות ותשובות	14:45-15:00	Questions and Answers

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האקדמיה הלאומית הישראלית למדעים THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES





Greetings from

Prof. Chaim Cedar Academy Member, Chair of the Adams Fellowships Steering and Selection Committee

As chairman of the academic committee, I would like to extend my own personal greetings to all of the Adams Fellows. It is well known that the level of science in Israel is very high, and this is especially true in the realm of basic research. The nucleus for this success clearly revolves around the students who make up the front line of these research efforts. Israel is blessed with a wonderful cadre of top-notch, well-informed and highly motivated students, who not only provide the intellectual infrastructure for basic research, but also represent future generations of senior scientists. Indeed it is heartwarming to see many of our previous fellows now returning to Israel to take up their own faculty positions.

The Adams fellowship program aims to strengthen this important ingredient by encouraging the very best students to go into science, by providing financial backing to allow these students to devote their time to research and by creating a forum for discussing science and exchanging ideas. It is for this reason that the Adams Conference represents such an important element in this program. This is especially true in today's science arena where interdisciplinary cooperation is an essential ingredient for understanding our complex world. With this in mind, I would like to wish all the participants success in their research and hope that this forum will help expand their horizons, promote good research and stimulate scientific discourse.

This year we inaugurated our first Adams outing that took place in the North and included a fantastic tour of Beit Shean and a unique peak of the synagogue at Beit Alpha. I would like to extend my personal thanks to Prof Yoram Tzafrir who not only provided us with a wonderful archaeological picture of the site, but also let us in on all the new developments. It was nice for everyone to get to know one another and share their scientific experiences out of the usual academic framework.

I would also like to take this opportunity to thank Batsheva Shor for her excellent work in managing the everyday aspects of the Adams Fellowship Program and in organizing this Conference. It is my belief that this program is making a major contribution to Israeli science, and I look forward to continued cooperation with the Adams Family, the Israel Academy of Sciences and with the many wonderful students and mentors involved in this effort.

Sincerely,

toward Cedar

Chaim Cedar

ADAMS CONFERENCE FOR 2012 כנס אדאמס תשע"ב



Prof. Ehud Behar

Prof. Ehud Behar has distinguished himself in the field of astrophysics. His research at the Technion centers on observational astrophysics and cosmology. He observes x-ray sources in space using space borne telescopes for investigation of active stars, supernova remnants, the intergalactic medium, and black holes in active galaxies. Dr. Behar also teaches undergraduate courses in physics and graduate courses in high-energy astrophysics, observational astrophysics, and the physics of atoms and molecules.

Prof. Behar received his bachelor's degree in physics and mathematics from the Hebrew University, where he also received his master's and doctoral degrees in physics – all with high honors. During his doctoral studies he received the Clore Fellowship, followed by the prestigious Rothschild post-doctoral fellowship, which he took to Columbia University's Astrophysics Laboratory.

At Columbia he worked with the team that developed an x-ray spectrometer, which was launched by the European Space Agency on board its XMM-Newton observatory. After three years at Columbia, Prof. Behar returned to Israel and joined the Technion faculty as a senior lecturer in the Faculty of Physics. He received another prominent fellowship from the Israeli Council of Higher Education - the Alon Fellowship. For his excellence in scientific research since arriving at the Technion, the Israel-based Wolf Foundation has awarded Dr. Behar the 2005 Krill Prize for Outstanding Young Researchers. Prof. Behar has published more than 100 papers in leading peer reviewed professional journals. From 2007 - 2009 he received a fellowship from NASA and was a visiting scientist at the Goddard Space Flight Center in Maryland, U.S.A. Since his return to the Technion in 2009, he serves as the Director of its Asher Space Research Institute, where he opened a new Space Optics Laboratory and where he oversees multidisciplinary research in space instrumentation, space propulsion, and small satellite applications.

Born in Jerusalem in 1967, Ehud Behar lives in Zichron Yaakov with his wife, Shlomit, and four daughters, Naomi, Dana, Stav, and Adee.

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Prof. David Shulman

David Shulman is Renee Lang Professor of Humanistic Studies at the Hebrew University, Jerusalem. Born in Iowa, he moved to Israel in 1967 because he had fallen in Iove with the Hebrew language. He studied Arabic, Persian, and Islamic history at the Hebrew University and then shifted to Tamil and Sanskrit at the School of Oriental and African Studies, University of London (Ph.D. 1976).

He is a student of the outstanding Tamilist John Marr. His research focuses on the languages and literatures of southern India (in particular, Tamil, Telugu, and Malayalam), on the cultural and religious history of this region, and on south Indian artistic modes and genres such as Carnatic music and the Sanskrit theater of Kerala, known as Kudiyattam.

He has published some twenty books, including The King and the Clown in South Indian Myth and Poetry (Princeton, 1985), The Hungry God: Tamil Tales of Filicide and Devotion (Chicago, 1993), and More than Real: A History of the Imagination in South India (Harvard, to appear in early 2012).

He has worked closely with colleagues such as Velcheru Narayana Rao, Sanjay Subrahmanyam, Don Handelman, and Yigal Bronner. His ruling passion is classical Indian music. A volume of translations from Tamil poetry into Hebrew will appear within the next few months.

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Ronen Gabizon Adams Fellow

Ronen was born and raised in Jerusalem to a family of four children, and graduated from Sieff & Marcs high school in Jerusalem. Due to the fact that he has diabetes mellitus, he was exempt from military service and thus started his B. A. in chemistry in 2003 at the Hebrew University immediately after high school.

His fascination with chemistry began long before the beginning of his B. A. Even as a child he showed great interest in chemistry and spent lengthy times reading on the subject and occasionally trying amateur experiments. Chemistry studies in high school only heightened his interest in the subject, and he had wonderful teachers who showed him that chemistry, and science in general, were not just useful but also fascinating and fun to learn.

To Ronen, his B. A. studies in chemistry were a bit of a shock at first, as chemistry turned out to be a far more exact and analytical science than conveyed in high school. However, once he grasped the nature of the subject he could reach a much deeper understanding of how chemistry affects us everywhere in life, and he had a sound basis from which he could learn new things and conduct research.

Along with the courses he took, during the second and third year of his B. A., Ronen performed a research project at the laboratory of Professor Uri Banin on the subject of "Alignment of Semiconductor Nanorods". This project, which involved physical chemistry and spectroscopy, was the first experience he had of genuine research. In parallel to his studies and research, he regularly volunteered to teach mathematics and English to high school students in the Jerusalem neighborhoods of Katamon and Kiryat Hayovel.

During his B. A. studies, Ronen was given several awards for excellence: two rector prizes for the first and second years of the degree; the Philip Elving prize for excellence in analytical chemistry; and a special distinction from the Knesset for excellence in the first year of the B. A. studies. He graduated in 2006 with honors, and started his M. Sc. studies at the laboratory of Professor Assaf Friedler. He continued directly to doctoral studies in 2008. His research focuses on modulating the oligomerization equilibrium of the tumor suppressor p53 as a basis for drug design, and involves biological and biochemical methods, synthetic chemistry, as well as biophysical and spectroscopic methods.

After completion of his doctoral studies, Ronen hopes to focus his career on a field with more environmental relevance, such as renewable energy, water conservation or waste treatment.

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Itai Roffman Adams Fellow

Itai is a PhD student of Prof. Eviatar Nevo and Prof. Avraham Ronen, at the International Graduate Center of Evolution of Haifa University.

Itai's work is anticipated to be a milestone in our understanding of the humanchimpanzee evolution, primarily because of its interdisciplinary approach of field and laboratory, genomic and socio-cultural perspectives. It will advance theoretical evolutionary perspective as well as practical medical and educational frontiers. It will erode the still existing belief about human linguistic uniqueness and enrich the intimate biological and cultural links which unify chimpanzees and humans evolutionarily.

Dr. Jane Goodall describes Itai as a leader among his peers. As an active member of the Jane Goodall Institute's Roots & Shoots global program for youth, Itai initiated Roots & Shoots groups in dozens of schools, scout groups, universities and community centers. With Itai's leadership, these groups completed a variety of projects to make the world a better place for people, animals and the environment. Dr. Goodall became captivated by Itai when she learned that he helped save an endangered species of amphibians by raising awareness to protect an Israeli wetland.

As part of his promotion of the advancement of chimpanzee personhood rights, Itai helped found the Israeli Hominid Welfare Association, which is working to establish a sanctuary for chimpanzees on Mt. Carmel, Israel. He has also started an initiative to help autistic and mentally retarded children to express themselves through video-assisted sessions with bonobo-chimpanzees who competently converse in English Lexigram Language.

Roffman has performed successful studies concerning identifying strategies for resource procurement with captive bonobo-chimpanzees (Pan paniscus) in Europe and America exemplifying their stone/wood tool processing competencies. He has recently returned from scientific collaboration meetings in North-West Africa to establish a field site where endemic multi-habitat arid chimpanzee culture lives along sand stone cliffs in a topography and habitat that has very similar natural selective pressures and variables that affected early Homo. A key trait for early Homo species radiation and evolution is being a generalist/Eurytopic species. Roffman will research this in these chimpanzees' behavior, culture and phenotypic adaptational plasticity (as predicted by the great geneticist Prof. Morris Goodman who evidenced Pan and Homo as sister species).

