



**סמינר אדאמס | ADAMS**  
**תשס"ח | Seminar for 2008**

Guest Lecturer  
**Israel Prize Laureate and Academy Member**  
**Professor Ada Yonath**



## **Professor Ada Yonath**

### **Israel Prize Laureate and Academy Member**

Prof. Yonath obtained her Bachelor (in Chemistry, 1962) and Master (in Biophysics, 1964) from the Hebrew University in Jerusalem and earned her Ph.D. degree in

X-ray crystallography from the Weizmann Institute of Science in 1968. She then conducted her postdoctoral studies at Carnegie Mellon University and at the Massachusetts Institute of Technology (MIT) in the United States, working on structures of biological macromolecules during 1968–1970. In 1970, she established the first protein crystallography laboratory in Israel, which remained the only lab of its kind in the country for almost two decades.

At the Weizmann Institute, Prof. Yonath is the incumbent of the Martin S. and Helen Kimmel Professorial Chair, and directs the Helen and Milton A. Kimmelman Center for Biomolecular Structure and Assembly. Between 1986 and 2004, she headed a Max-Planck Research Unit in Hamburg, Germany, in parallel to her activities as a professor at the Weizmann Institute.

Prof. Yonath is a member of the US National Academy of Sciences; the American Academy of Arts and Sciences; the Israel Academy of Sciences and Humanities; the European Academy of Sciences and Art; and the European Molecular Biology Organization (EMBO). Additionally, she earned honorary doctorates from Tel Aviv, Ben Gurion and Oxford Universities.

Her awards include the first European Crystallography Prize (2000), a Certificate of Distinction from the US National Institutes of Health (NIH) (2000), the 2002 Israel Prize in Chemistry, the Harvey Prize from the Technion-Israel Institute of Technology (2002), the Cotton Medal of the US Chemical Society (2002), the Anfinsen Award of the International Protein Society (2003), the Zurich University's Paul Karrer Gold Medal (2004), the University of Southern California's Massry Award and Medal for Ribosome Research (2004), the Datta Medal of the Federation of European Biochemical Societies (2005), the Fritz Lipmann Award of the German Society for Biochemistry and Molecular Biology (2005), the Louisa Gross Horwitz Prize of Columbia University in New York (2005), the Rothschild Prize for Life Sciences (2006) and the Israel Prime minister EMET prize (2006), the Paul Ehrlich-Ludwig Darmstaedter Medal, Germany (2007), the Wolf Prize (2007), the Linus Pauling Gold Medal (2008) and the UNESCO for Women in Science Prize, representing Europe (2008).



Introductory remarks by

**Professor Menahem Yaari,  
President of the Israel Academy**

The Adams Fellowship Program arose from the vision and generosity of Mr. Marcel Adams, of Montreal, Canada. Mr. Adams views young Israeli scientists as the key to the State's future, so he has designed a program that would help create a young Israeli cadre of scientists committed to remaining in Israel and advancing scientific knowledge and research. Mr. Adams views this endeavor as the most worthwhile form of investment.

Adams Fellows enjoy sustained financial support for three to four uninterrupted years of Ph.D. study. As long as the Fellow maintains good standing in his/her training program, no further requirements are placed for continued support.

Adams Fellows also enjoy two privileges, not normally available in graduate student support programs. First, each Adams Fellow is entitled to funding towards travel abroad to participate in international, scientific conferences or workshops. Second, Adams Fellows are given the opportunity to interact with one another and to form a small science community of their own. This will be achieved through initiatives such as invited lectures by renowned scientists and periodic seminars and retreats.

The Fellows are selected annually from a list of candidates nominated by the Rectors of Israel's institutions of higher learning. We seek outstanding and highly motivated students, bent on building their scientific careers in Israel. Only candidates from the natural sciences, life sciences, computer science and mathematics are eligible. The Program welcomes candidates from fields which transcend traditional disciplinary boundaries and conventional frameworks.

Since the Program's inauguration in May of 2005, 36 Adams Fellows, PhD Students of the highest academic standing have been inducted. We are proud to introduce this year's chosen Fellows briefly in this brochure.

I am sure that I speak for Israel's science community at large in expressing heartfelt admiration and appreciation to Marcel Adams for his gracious and far-sighted support of Israel's outstanding young scientists.

## Adams Fellowships Steering and Selection Committee



Professor Yoram Groner  
Chairman



Professor Noga Alon



Professor Chaim Cedar



Professor Moshe Moshe



Professor Yigal Talmi



Professor Itamar Willner



Professor Jacob Ziv



## **Professor Yoram Groner, Chair of the Adams Fellowships Steering and Selection Committee**

Four years ago, the Israel Academy of Sciences and Humanities established the "Adams Fellowships" program, a new program of fellowships for doctoral students in the Maths and Sciences.

This program was initiated by Mr. Marcel Adams of Canada and Prof. Menahem Yaari, President of the Academy.

The Academy appointed a steering committee to run the project and choose the fellows. Members of the committee are: Yoram Groner (Chair), Noga Alon, Itamar Willner, Yaacov Ziv, Moshe Moshe, Howard Cedar and Yigal Talmi.

The Steering Committee set as its goal to nurture the "Adams Fellowships" program until it becomes the leading fellowship program for doctoral students of the higher education system. For this purpose, the strictest criteria were used in the selection process. Adams Fellows had been and will be chosen solely on the basis of their excellence, without any institutional considerations.

During the three years of its operation, the "Adams Fellowships" program attained prestige and won much acclaim from all those involved in higher education. I have no doubt that in the long run this program will significantly impact on the standard of Israel's young investigators for many years to come. We all thank Mr. Marcel Adams for his vision and generosity from the bottom of our hearts.

Sincerely,

A handwritten signature in black ink, appearing to read 'Yoram Groner', written over a horizontal line.

Yoram Groner



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## 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. A Montreal resident, the proud father of four and grandfather of eleven, he remains full of energy, works a full week and looks at least a decade younger than his 87 years.

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 is large enough to provide \$1 million annually to outstanding Ph.D. students, covering their full tuition and living expenses throughout 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 wishes 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. The fellowship helps young men and women thrive technologically, scientifically and intellectually. In turn, Adams believes they will carry the flag for the next generation and for future generations.

Academy President Prof. Menahem Yaari describes the agreement as one of the most important documents ever for the future of higher education in Israel. 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 and brain research.

Marcel Adams wishes 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 article includes extensive quotes from an article by Judy-Siegel-Itzkovich in the Jerusalem Post, May 29, 2005)*



## Keren Censor

PhD student of Prof. Hagit Attiya, Computer Science, The Technion  
Dissertation topic: Probabilistic Methods in Distributed Computing

Keren has managed to produce high-quality results very early in her PhD work, despite the fact that her MSc thesis was on the totally unrelated subject of coding theory. With inherent talent and mental flexibility, she managed to settle a problem that has been open for almost ten years. She pulled together tools from the theory of stochastic processes and product probability spaces in order to prove tight bounds on the complexity of achieving randomized consensus, a key problem in distributed computing. According to Prof. Attiya,

her advisor, Keren's proofs are precise yet simple and shine with rare elegance. Her results revive the problem of randomized consensus, which has been dormant for many years and allow studying it in other contexts.

Keren presented her results in a paper, described as a scientific gem, at the symposium of Theory of Computing (STOC 2007), the top conference in theoretical computer science. Its full version was recently submitted for publication in a premier journal in computer science. A paper based on Keren's MSc thesis in coding theory, under the supervision of Prof. Tuvi Etzion, has already been published in a high-quality journal (IEEE Trans. On Information Theory) after being presented in the leading conference on Information Theory (IEEE International Symposium on Information Theory).

Other interesting research avenues Keren has been pursuing are the studying of different communication models and other coordination problems such as renaming and set consensus. She is collaborating in her research with Professor James Aspnes at Yale University.



## Emanuele Dalla Torre

PhD Student of Dr. Ehud Altman, Condensed Matter Physics, Weizmann Institute of Science  
Dissertation topic: Strongly Correlated States in Ultra-cold Atoms

Emanuele made Aliya from Italy in 1999, through a project of the B'nai Akiva movement. He then commenced undergraduate studies at the Technion, where he was accepted in the Chais Excellence Program. He performed short research projects under the supervision of Professors Dan Ritter, Baruch Fischer and Yossi Avron and obtained a double degree in Electrical Engineering and Physics. Emanuele continued at the Weizmann Institute of Science for his Masters degree, with a thesis in the field of condensed matter, under Dr. Altman, who is continuing as his advisor for his doctorate, as well.

In his Master thesis, Emanuele studied a model of bosons in one dimension, relevant to ultracold atoms with non-local interactions, by both analytical and numerical methods. He identified a new quantum phase of the system, termed "Haldane phase", that was unknown before his work. Due to his clear sense of direction and deep understanding of the wider contexts of his work, Emanuele achieved impressive results in his research and his work earned international recognition from leading researchers in the field. Less than a year after entering the difficult field of strongly correlated systems and quantum magnetism, his main work was published in Physical Review Letters. He recently submitted a longer paper, together with Erez Berg from Stanford University, which extends these results.

Emanuele gave a seminar on his work at a workshop at the Kavli Institute for Theoretical Physics (KITP) in Santa Barbara, where, according to Professor Giamarchi of Geneva University, he demonstrated a scientific maturity way beyond what one could normally expect from someone at his current stage in his career. He presented his work at the Université Paris-Nord, CNRS in France, as well.





## Noam Gross

PhD Student of Dr. Lev Khaykovich, Physics, Bar-Ilan University.

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

Noam's research concentrates on the trapping and cooling of neutral atoms with laser light. These cold atoms are excellent candidates for testing quantum mechanical theories and nonlinear dynamics. Noam has recently constructed a far-off resonance optical trap for neutral atoms by using a high power ytterbium fiber laser which played a crucial role in the most successful achievement of a Bose-Einstein condensation in a dilute atomic gas

of lithium atoms. He published a paper in Physical Review A describing this work. Now, Noam is working toward the realization of matter-wave solitons and the investigation of their properties and dynamics.

In his work Noam utilizes many experimental tools, such as high power lasers, geometrical and physical optics, strong magnetic fields, electronic circuits and ultra-high vacuum. According to his advisor, Dr. Lev Khaykovich, Noam is capable of coping with the entire diversity of experimental physics. He has demonstrated excellent skills in both theoretical and experimental research.

Other research interests of Noam include coherence properties of semiconductor-lasers and chaos-based cryptography. Five papers were published in: Physical Review Letters, Optics Communications, the Proceedings of SPIE, and two articles in Physical Review E. According to Prof. Ingo Fischer of Heriot-Watt University in Edinburgh, Noam's publications in Physical Review have been quite influential in the field of understanding and harnessing delay-coupled lasers.



## Ishay Haviv

PhD Student of Prof. Oded Regev, Computer Science, Tel-Aviv University

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

The study of lattices is an extremely important subject in mathematics, computer science and cryptography. A central problem is computing, exactly or approximately, the shortest non-zero vector in a lattice, known as the Shortest Vector Problem (SVP). The best known algorithms to compute SVP are very inefficient, but are still used routinely to design attacks on cryptosystems. An efficient algorithm for SVP would be terrible news for the security of

many cryptosystems. It is therefore important to prove rigorously that no efficient algorithm can even approximately compute SVP. Ishay's work (with Oded Regev) substantially improved on all previous results and attracted much attention from colleagues. It appeared in the highly competitive STOC 2007 conference, where Ishay presented an excellent talk.

Ishay is now working on a wide variety of problems, including some difficult and long-standing open problems in combinatorics, hardness of approximation, the theory of lattices and coding theory.

Ishay's paper in Complexity 2006 proved first hardness results for another problem called the Covering Radius Problem (CRP). Ishay's two other publications are in the journals Theory of Computing and Discrete and Computational Geometry. Professor Ta-Shma of Tel-Aviv University's School of Computer Science is confident that Ishay will continue making fundamental contributions to the field of Computer Science for many years to come.



## Amir Ingber

PhD Student of Prof. Meir Feder, Electrical Engineering, Tel-Aviv University  
Dissertation topic: Coding Methods and Bounds for the Bandwidth Limited Regime

Having completed a joint BSc degree in Electrical Engineering and Computer Science, Amir went on to conduct research towards his Masters degree under the supervision of Prof. Feder, performing excellent work that led to two papers that were presented in leading conferences as well as a book chapter. His topic "finite memory universal predictors" requires the knowledge and understanding of a wide range of engineering and mathematical tools, as well as the ability to thoroughly understand the essence of the theory. Prof. Feder claims

that Amir showed independent thinking, creativity and high self-learning skills. He also proved fluent in computer science topics and combinatorial techniques.

Now Amir is working on one of the fundamental problems in information theory – the channel coding problem with limited bandwidth. Although he is only in the early stages of his research, he is already making progress towards a better understanding of the inherent limitation of the communication problem and specifically the channel coding problem combined with "the Multi-Level Coding" scheme. New bounds derived by Amir will soon be published. This work touches another fundamental problem of performance versus complexity in communication systems. Amir's work suggests a way to better understand this problem, especially for the interesting case of limited bandwidth systems, which are becoming the most interesting schemes in wireless communications.

Amir is also exploring several other areas, such as joint source-channel coding, in which he has performed independent research and published two papers in a leading conference. Despite the fact that he was accepted to both Princeton and Stanford Universities with full fellowships, Amir decided to stay in Israel, where it is predicted that he will have a "stellar academic career".



## Mor Mordechai Peretz

PhD Student of Prof. Shmuel Ben-Yaakov, Electrical Engineering & Computer Science, Ben-Gurion University  
Dissertation topic: Time Domain Design of Digital Controllers for PWM Converters

Mor's study of the thermal effects on the stability of cold cathode fluorescent lamps driven by piezoelectric transformers, not only resolves an important theoretical and practical problem, but proposes a novel analytical approach that could be useful in many other cases. In his PhD research, he has brilliantly developed an original methodology for designing time-domain based controllers for switched-mode power converters based on short-term responses. This original approach has already been adopted by the industry for practical designs.

Mor's advisor ranks him as the best of the top level students he has ever known during his 35 years of university teaching. He found him to be exceptionally productive and highly creative, eager to learn and explore and unhesitant to undertake and execute, meticulously and innovatively, complex and challenging research tasks. According to Prof. Ben-Yaakov, Mor's ability to grasp and decipher highly involved issues, coupled with his creativity, make it possible for him to take upon himself and solve the most demanding research challenges. He has a total of seventeen papers in the highest ranking journals and conferences in power electronics, unparalleled to any PhD student of his "academic age". The quality of his contributions is even more impressive and his scientific work has already resulted in "archival value papers" that address fundamental problems and will continue to be significant in the future.



## Michael Orlov

PhD Student of Prof. Moshe Sipper, Computer Science, Ben-Gurion University  
Dissertation topic: Evolutionary Computation

Evolutionary Computation is an interdisciplinary field with roots in biology and physics. In his work, Michael researches ways to automatically improve software modules, using evolutionary computation – evolutionary software improvement. This new approach promises to improve results of state-of-the-art systems intended to solve real-world problems. Locating an algorithmic module with functionality that can be improved with an evolutionarily designed algorithm can tremendously advance the achievements of the system as a whole.

Michael has been able to identify some of the key unsolved problems within Evolutionary Computation and Artificial Intelligence, namely the crucial role of communication between and within evolved artificial systems. According to Dr. Natalio Krasnogor of the University of Nottingham, one of the leading scientists on the large ChellNET (network) that includes many prestigious universities, Michael is at the top 1% of doctoral students. He knows exactly what research he wishes to pursue and has identified a credible methodology to attempt a solution for the challenging and important problems that he took on.

Michael has published quality papers in the Proceedings of the Third International Conference (2002) on Web Information Systems Engineering (Workshops) and in the ECAI-2006 Workshop on Distributed Constraint Satisfaction Problems. He will have an invited paper in the Encyclopedia of Complexity and Systems Science, 2008 and has published a paper in Dr. Dobb's Journal, 2008. Prof. Meisels, his advisor for MSc on Distributed Constraints, describes Michael as brilliant in both theory and practice.



## Eran Segev

PhD Student of Dr. Eyal Buks, Electrical Engineering, The Technion  
Dissertation topic: Back-Reaction Cooling and Quantum Phenomena in Nanomechanical Resonators

Eran's research is in the field of nanotechnology, mastering in Quantum Nano-Mechanics. He chose nanotechnology because it is a revolutionary technological innovation that will create a massive change in all aspects of people's lives. Quantum Nano-Mechanics is an emerging field in which the mechanical behavior of nano-scale systems in the quantum domain is studied. Eran explores ways to integrate nano-mechanical resonators and superconducting electrical resonators, in order to explore, for the first time, quantum phenomena in the former resonator. This research is in the technological front edge of building a first quantum computer.

In the preliminary stage of the research, Eran studies ways to employ superconducting resonators as sensitive radiation detectors. He makes use of the high sensitivity of the resonator resonance frequency and of its very limited thermal stability, to induce a frequency change due to absorption of radiation. Once irradiated upon, the resonator heats up locally and changes its resonance frequency. This enables very sensitive radiation detection up to the ultimate limit of single photon detection. Eran has progressively improved these detection resonators and gained more basic knowledge of the physics behind them and their properties. Working in the field of nanotechnology, Eran includes all aspects of the work on superconducting resonators, including the difficult part of processing the devices.

In just two years, Eran has already contributed to 16 papers, six of them as the first author. Prof. Elisha Cohen of the Technion judges the quality of his papers as unusually high for a doctoral student in the intermediate stage of his work. He describes the number of Eran's published papers as unusual for a student whose work is based on developing technologies in a front line field of research.



## Gil Segev

PhD Student of Prof. Moni Naor, Computer Science, Weizmann Institute of Science  
Dissertation topic: The Complexity of Resilient Sketches

Gil is fascinated by the foundations of computer science and especially cryptography. The flavor of research in cryptography captured him, since it deals with mathematical problems which possess a fundamental theoretic structure, yet hold highly practical importance.

Gil's doctoral research focuses on new encodings for data structures and their applications to cryptography. In particular, he exploits recent progress on dispersers. His work on storing information on write-once memories won the best paper award at the International Colloquium on Automata, Languages and Programming (ICALP) 2007. His motivation is the challenging task of designing "secure" vote storage mechanisms and more generally dealing with information storage mechanisms that operate in extremely hostile environments, where the majority of existing techniques for information storage and security are susceptible to powerful adversarial attacks. Gil proposed an efficient mechanism for storing sets of elements from a large universe on write-once memories in a manner that does not reveal the insertion order of the elements. The mechanism is nearly optimal in terms of the space needed. Prof. Naor claims that Gil mastered and employed techniques in several areas, coming up with many different ideas which he executed flawlessly.

In another project, Gil formalized a realistic model designated for computations over massive data sets. The model, referred to as the adversarial sketch model, unifies the well-studied sketch and data stream models together with a cryptographic flavour that considers the execution of protocols in "hostile environments". This model provides a framework for studying the complexity of many natural tasks involving massive data sets. Gil's main technical contribution is an explicit and deterministic encoding scheme that enjoys two seemingly conflicting properties: incrementality and high distance, while the cost of each operation is bounded.



## Reut Shema

PhD Student of Prof. Yadin Dudai, Neurobiology, Weizmann Institute of Science  
Dissertation topic: The Role of PKMzeta in Long Term Memory Storage in the Rat Brain

In her research in a direct PhD program, Reut searches for such "memory keeping molecules" whose inhibition will disrupt memory, without affecting learning or ongoing functions of the neurons. Reut discovered that blocking the enzyme called Protein Kinase Mzeta (PKMzeta) in the neocortex, which is considered to be the final repository of long term memories, can erase long-term memory of taste associations in the rat's cortex. Skillfully combining molecular biology, neuropharmacology and behavioral analysis, Reut made a signal contribution to what could be literally defined as a revolution in memory research. Her

findings resulted in much discussion in the scientific literature and in the general news and were published in Science, in a paper on which she is the first author. Another publication, based on her findings, is already on its way. These accomplishments are despite the fact that Reut is only at the initial stage of her thesis.

Reut became the engine behind a long-term collaborative project she has with Prof. Dudai and Prof. Todd Sacktor at the SUNY Downstate Medical Center of New York. According to Prof. Sacktor, she single-handedly completed one of the most significant studies on the molecular mechanism of long-term memory in recent years. She elucidated the mechanisms by which long-term memories are stored in the brain, employing a drug that makes it possible to erase long term memories. Reut has already presented her results at two international meetings.

Prof. Dudai describes Reut as a gem among the many excellent students he was blessed with over the years, ranking her at the top 1% of all the students he has ever encountered.

2007-2008



### **Avraham Ben-Aroya**

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

Dissertation topic: Quantum Computation and Quantum Information



### **Shai Carmi**

PhD student of Professor Shlomo Havlin, Physics, Bar-Ilan University

Dissertation topic: Complex Systems



### **Chen Davidovich**

PhD student of Professor Ada Yonath, Structural Biology, Weizmann Institute of Science

Dissertation topic: Ribosome Structure and Function



### **Shahar Dobzinski**

PhD student of Professor Noam Nisan, Computer Science, Hebrew University of Jerusalem

Dissertation topic: The Power of Approximations in Mechanism Design



### **Moshe Goldstein**

PhD student of Professor Richard Berkovits, Physics, Bar-Ilan University

Dissertation topic: Interference Effects in Interacting Mesoscopic Systems



### **Amir Goren**

PhD student of Professor Gil Ast, Human Genetics and Molecular Medicine, Tel-Aviv University

Dissertation topic: Inferring Regulatory Elements of Splicing Using Comparative Genomics



### **Dan Hermelin**

PhD student of Professor Gad M. Landau, Computer Science, Haifa University

Dissertation topic: Algorithmic Challenges in RNA Comparative Analysis

2007-2008

2007-2008

2007-2008



### **Yoav Lahini**

PhD student of Professor Yaron Silberberg, Physics,  
Weizmann Institute of Science

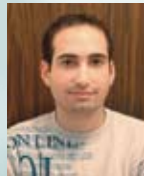
Dissertation topic: Disordered Nonlinear Systems



### **Guy Ron**

PhD student of Professor Eliezer Piasetzky, Experimental  
Physics, Tel-Aviv University

Dissertation topic: Measurement of the Proton Elastic Form  
Factors at Low  $Q^2$



### **Avraham Saig**

PhD student of Professor Ehud Ahissar and Dr. Amos Arieli,  
Neurobiology, Weizmann Institute of Science

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



### **Alexander Sodin**

PhD student of Professor Vitali Milman, Mathematics,  
Tel-Aviv University

Dissertation topic: Probabilistic Methods in Asymptotic  
Geometric Analysis

2006-2007

2006-2007



### **Haim Beidenkopf**

PhD student of Professor Eli Zeldov, Physics, Weizmann  
Institute of Science

Dissertation topic: Vortex Thermodynamics in High-  
Temperature Superconductors



### **Liat Benmoyal Segal**

PhD student of Professor Hermona Soreq, Biological  
Chemistry, and Professor Hagai Bergman, 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, Biological Chemistry,  
Hebrew University of Jerusalem

Dissertation topic: Structure-Function Study of Multidrug  
Transporters



### **Olga Khersonsky**

PhD student of Dr. Dan Tawfik, Chemistry, Weizmann Institute  
Dissertation topic: Mechanistic Enzymology: From Classical Tools to Directed Evolution



### **Dana Moshkovitz**

PhD student of Prof. Ran Raz, Mathematics, Weizmann Institute  
Dissertation topic: Probabilistically Checkable Proofs



### **Ariel Procaccia**

PhD student of Professor Jeffrey S. Rosenschein, Computer Science, Hebrew University of Jerusalem  
Dissertation topic: The Theoretical Foundation of Multi-agent Systems (MAS)



### **Carmel Rotschild**

PhD student of Professor Moti Segev, Physics, The Technion  
Dissertation topic: Soliton Interactions in Nonlocal Nonlinear Media



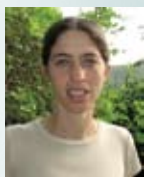
### **Ofer Shayevitz**

PhD student of Professor Meir Feder, Electrical Engineering, Tel-Aviv University  
Dissertation topic: Universal Communications with Feedback



### **Amir Shlomai**

PhD student of Prof. Yosef Shaul, Biochemistry, Weizmann Institute  
Dissertation topic: Metabolic Alterations in the Liver and Hepatitis B Virus Gene Expression



### **Noam Stern**

PhD student of Professor Ofer Mandelboim, Immunology, Hebrew University of Jerusalem  
Dissertation topic: Natural Killer (NK) Cells

2006-2007

2006-2007

**Yael Eshed-Eisenbach**

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

Dissertation topic: Neuro-Glial Interactions

**Nathan Keller**

PhD student of Prof. Gil Kalai, 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, Computer Science,  
Tel-Aviv University

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

**Raz Palty**

PhD student of Dr. Israel Sekler, Physiology,  
Ben-Gurion University

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

**Sharon Shwartz**

PhD student of Professor Moti Segev, Physics, The Technion

Dissertation topic: Nonlinear Optics in CZT:V