# New Horizons

## Tel Aviv University

### 2007 Annual Report

TEL AVIV UNIVERSITY אוניברסיטת תל-אביב

# Annual Report 2007

10 messages | 12 projects | 14 Reports

Identifying areas of research
where our contribution is already world class,
nurturing them toward accelerated achievement and discovery,
we apply the rigors of science to

# The Study of Life

## The Tel Aviv University New Horizons Program

This last year, we embarked on a research and development program aimed at dramatically increasing our scientific impact in our strongest multidisciplinary fields. We call it **New Horizons.**

The four fields chosen for advanced development – Stem Cell Research and Regenerative Medicine; Biophysics; Astrophysics and Astronomy; and Ancient Israel – represent the cooperative efforts of five faculties. From saving life to revealing the structure of life, each area has its unique way of applying science to the study of life.

Under the program, the university will strategically channel funding into these areas in the form of new laboratories and advanced equipment, additional faculty positions, and master's and doctoral fellowships. The ultimate goal is to generate more breakthroughs and knowledge through collaborative projects and experimentation.

# From Big Bang

These findings are all the more impressive considering that the university is not a member of a major international astronomical observatory, and our astronomers do not have guaranteed access to the most powerful observational tools.

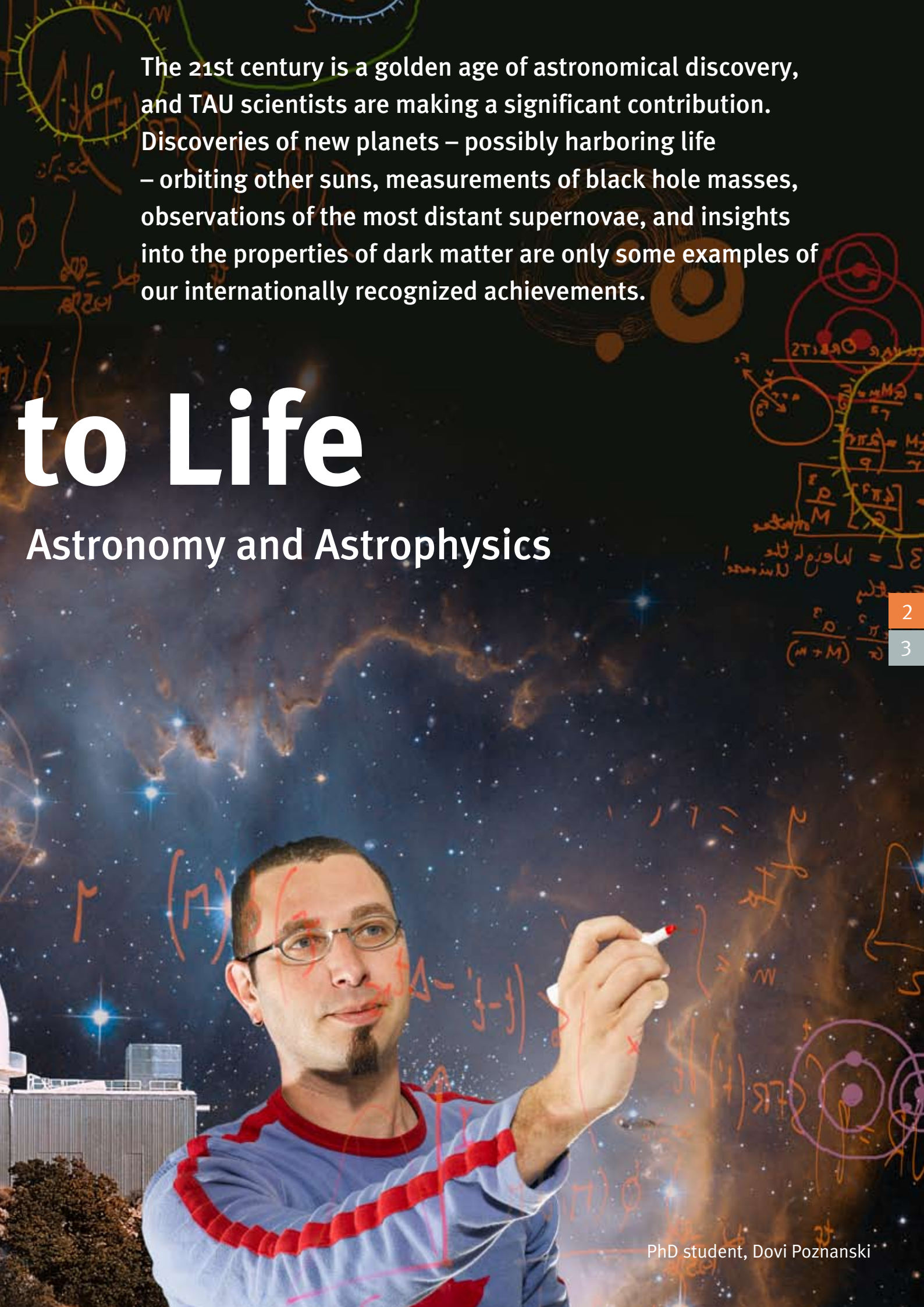
Under New Horizons, TAU seeks to team up with other Israeli universities and agencies to purchase membership in a large telescope project such as the European Southern Observatory or the Southern African Large Telescope. TAU's Prof. Hagai Netzer (Astronomy) is coordinating this national effort that, once completed, will ensure Israel's continued strong presence in the study of the birth and evolution of the universe.

The 21st century is a golden age of astronomical discovery, and TAU scientists are making a significant contribution. Discoveries of new planets – possibly harboring life – orbiting other suns, measurements of black hole masses, observations of the most distant supernovae, and insights into the properties of dark matter are only some examples of our internationally recognized achievements.

# to Life

## Astronomy and Astrophysics





PhD student, Dovi Poznanski


# Stem Cell Research and Regenerative Medicine

**Medicalscientists hope to unleash the potential of stem cells, which are capable of differentiating into any kind of cell or tissue, to replace the body's damaged, malfunctioning or diseased tissues and organs with healthy ones.**

The work of  some 60 groups at TAU is contributing to future therapies for Parkinson's, heart disease, renal failure, osteoporosis, spinal cord injuries, and dozens of other devastating conditions. Our researchers have learned how to grow insulin-producing cells for future treatment of diabetes; develop cells to regenerate cardiac muscle damaged by heart attack; and grow cultures of human brain cells toward future cell-replacement therapies for a range of neurodegenerative diseases.

For TAU to keep up its momentum, a major investment must be made in basic research capabilities, stresses Prof. Ruth Shalgi, coordinator of the Stem Cell Research and Regenerative Medicine initiative. The biggest need: building laboratories and recruiting experts to create and maintain stem cell lines.

# ing Life


PhD student, Anat Eldar

# Recreating

**Scholars of Ancient Israel reconstruct the events and forces that gave birth to Judaism, influenced early Christianity and shaped the foundations of western civilization. Not surprisingly, TAU is uniquely positioned to lead in this field.**

Our advantage stems from a combination of strengths based in one academic center: decades of experience supervising major archaeological digs; a nucleus of Biblical scholars; a string of important findings that throw new light on old issues; innovative scientific methods that enable, for example, analysis of 3,000 year-old DNA; and influential publications.

# Life

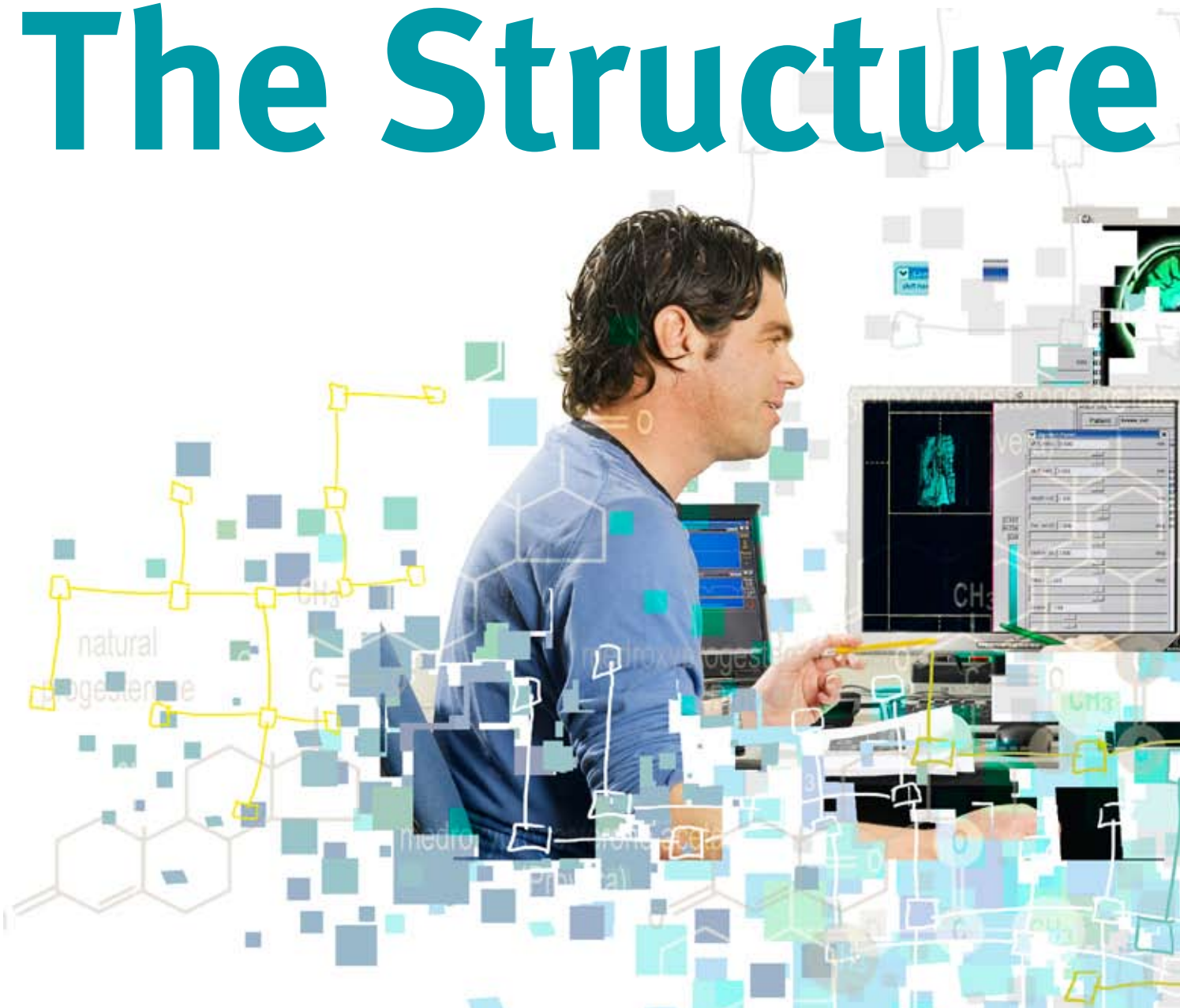
## Ancient Israel



Doctoral candidate,
Yifat Thareani-Sussely

Coordinated by Professors Israel Finkelstein and Nadav Na'aman, the Ancient Israel module of New Horizons seeks support for more young researchers, upgraded labs and library resources. Planned cross-disciplinary projects between over 40 researchers – from historians to linguists, physicists to zoologists, computer scientists to archeologists – will ensure TAU's continued prominence in the field.

# The Structure

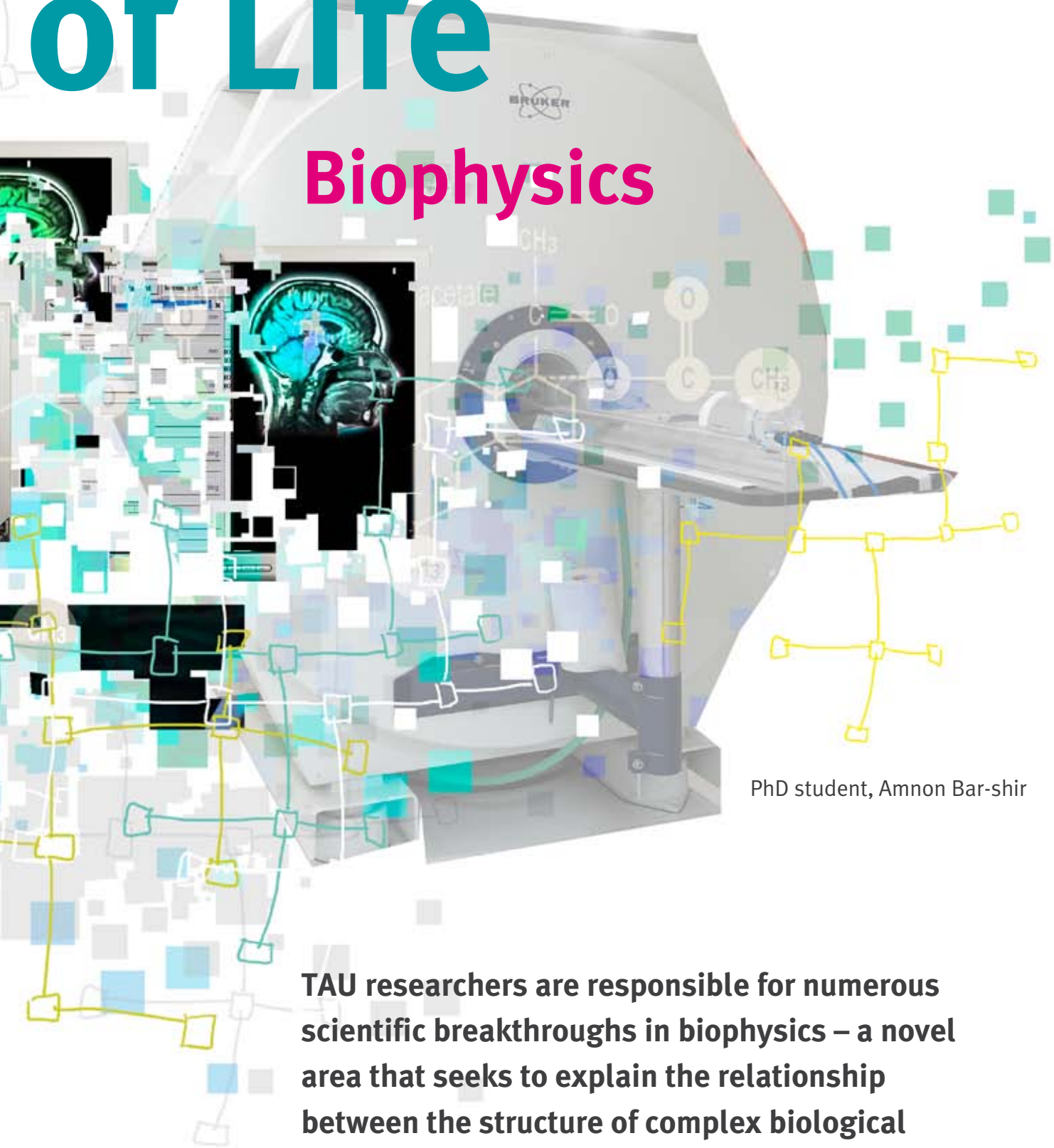


Groups at TAU have determined the 3D structure of the protein responsible for photosynthesis in plants, and of proteins involved in nerve and muscle cell signaling, with implications for neurological and cardiac disease. Other studies help explain why, on a molecular level, cell membranes fuse during fertilization or viral infection; and how and when DNA, carrier of the genetic code, changes its shape.

Understanding such biological processes on the smallest physical level could have enormous repercussions for battling disease and developmental disorders, says Prof. David Andelman (Physics), who is coordinating the biophysics module of New Horizons, together with Professors Joseph Klafter (Chemistry) and Michael Kozlov (Medicine). But for TAU to increase and enrich its contribution – and continue making major advances – the university needs new advanced laboratories, instrumentation and expertise in the field.

# of Life

## Biophysics




PhD student, Amnon Bar-shir

**TAU researchers are responsible for numerous scientific breakthroughs in biophysics – a novel area that seeks to explain the relationship between the structure of complex biological systems, such as cells, and their function.**

**Dov Lautman**
Chirman, Executive Council

**Prof. Dany Leviatan**
Rector

**Prof. Gideon Langholz**
Director-General

**Yehiel Ben-Zvi**
Vice president

**Hagit Messer-Yaron**
Vice president
for Research and development



## Greetings from the Chairman

Dear friends of the university,

This extraordinary university entered my life just as I was relinquishing some of my duties as a bank president in Cleveland, Ohio, finishing my term as chairman of the United Jewish Communities (UJC), and looking for a new place to make a contribution. The association seemed fated: my apartment in Israel, a long-time second home, was just a short walk from the campus.

After my first working visits to the university, I felt a bit overwhelmed. So many bright, determined students rushing purposefully in every direction. So many distinguished faculty members representing an impressive spectrum of studies. So many achievements accumulated in just 50 years. Like any awestruck, bewildered freshman, I wondered how I would fit in and how I could make my mark.

The first, immediate objective is to address the fiscal crisis that particularly threatens undergraduate enrollment. Another goal – a grandiose one I admit – is to position TAU at the head of a coalition of Israeli universities pursuing alternative energy sources. I see no institution more equipped for worldwide leadership in alternative energy research than ours. In addition to maintaining our preeminence in the sciences, we must also maintain our support of the arts, humanities, social sciences and every other academic area that makes our university great.

To meet these ambitious goals and others, I have many superb allies: our board, faculty, and students, and our incoming president, Prof. Zvi Galil.

My first year at TAU has been exhilarating. Like many freshmen, I feel fortunate to be part of the school, and I look forward to what I will learn next.

**Robert Goldberg**
Chairman, Board of Governors

## Farewell from the President

Dear governors, friends and supporters,

This is a solemn and emotional moment for me – writing a farewell message after my eight years in office as Tel Aviv University's president.

I look back with pride on this period. Together with a group of colleagues and lay leaders, we steered TAU through a difficult crisis. TAU is now out of the crisis, and more compact, yet in several ways a better academic institution. This is not to say that the challenges are over. Israel's university system is still coping with the 20% cuts imposed by the government earlier in the decade. The Shochat Commission has been formed in order to deal with the structural and regulatory issues of Israel's university system, although the student and faculty unions are threatening to obstruct its work.

Here on campus, the task of nurturing TAU into a still better and more prestigious international university will be led by the incoming president, Prof. Zvi Galil, during his term. Some of my thoughts on the work ahead are elucidated in a small brochure titled "Looking Back, Looking Forward."

Finally, it is my pleasant duty to thank all my partners within the University's leadership, administration and faculty, and to wish the new team a great deal of success and satisfaction.

**Prof. Itamar Rabinovich**
President

**Dr. Raymond R. Sackler,**
Honorary Chairman of the Board of Governors

**Dr. h.c. Karl Heinz-Kipp,**
Deputy Chairman of the Board of Governors

**Joseph Buchmann, Stewart M. Colton, Dr. h.c. Raya Jaglom, John Landerer, Hugo Ramniceanu, Adolfo Smolarz, Melvin S. Taub**
Vice Chairmen of the Board of Governors

**Prof. Raanan Rein**
Vice Rector

**Prof. Shimon Yankielowicz**
Pro-Rector

**Prof. Simon Benninga**
Dean of the Faculty of Management-Leon Recanati Graduate School of Business Management

**Prof. Shlomo Biderman**
Dean of the Lester and Sally Entin Faculty of Humanities

**Prof. Hanoch Dagan**
Dean of the Buchmann Faculty of Law

**Prof. Ehud Heyman**
Dean of the Iby and Aladar Fleischman Faculty of Engineering

**Prof. Yoel Kloog**
Dean of the George S. Wise Faculty of Life Sciences

**Prof. Noah Lewin-Epstein**
Dean of the Gershon H. Gordon Faculty of Social Sciences

**Prof. Yoseph Mekori**
Dean of the Sackler Faculty of Medicine

**Prof. Hannah Naveh**
Dean of the Yolanda and David Katz Faculty of the Arts

**Prof. Haim J. Wolfson**
Dean of the Raymond and Beverly Sackler Faculty of Exact Sciences

**Prof. Yoav Ariel**
Dean of Students

**Prof. David Menashri**
Dean for Special Programs

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**Robert Goldberg**
Chairman, Board of Governors

## Message from Outgoing President Rabinovich

Dear governors, friends and supporters,

I would like to express my gratitude for the opportunity to preside for eight years over one of Israel's most attractive institutions. In a country that has known war and suffering, that is still fighting for values of democracy, ethics and social justice, Tel Aviv University, notwithstanding its problems, is a beacon of achievement and hope. It is full of talented individuals, devoted workers and, most important, a student body of thousands of gifted, enthusiastic young people – the harbinger of Israel's bright future.

It is with great pleasure that I thank all my partners within the University's leadership, administration and faculty, and wish the new team a great deal of success and satisfaction.

**Professor Itamar Rabinovich**

## Message from Incoming President Galil

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**Professor Zvi Galil**

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**Prof. David Menashri**
Dean for Special Programs

# Projects 2007

## Academic Development

Book Fund in Hellenistic Judaism and the Classics – Estate of Isabelle Artstein, Israel

Center for Advanced Legal Studies
Nochi Dankner, Founding Donor – Israel
Zvi & Ofra Meitar Family Trust, Founding Donor – Israel/UK
Eric and Tamar Goldstein – USA
Herzog, Fox & Neeman Law Office – Israel
Meitar Liquornik Geva & Leshem Brandwein Law Offices – Israel

Support for the Hartog School of Government and Policy – Friendship Foundation, Israel

Haim Rubin Tel Aviv University Press – Gutwirth Foundation, Israel

Support for the Hartog School of Government and Policy – Kahan Family Foundation, Israel

Expansion of the Adi Lautman Interdisciplinary Program for Outstanding Students – Israel

TAU–Northwestern Program in Public and International Law – Legacy Fund, USA

Law and Road Safety Program – Avi Naor/Green Light Foundation Trust, Israel

Nevzlin Fund for Special Projects – Israel

Mark Rich Program for Arts and Culture Administration – Switzerland

Raymond and Beverly Sackler Prize for Scientific Excellence – USA

Bernard Schwartz Program in Nano-Scale Information Technology – USA

Law and Environment Legal Education Clinic – Samuel Sebba Charitable Trust, UK

## Research

Dr. Miriam and Sheldon G. Adelson Center for the Biology of Addictive Diseases – USA

Alfred Akirov–ALROV Institute for Business and Environment – Israel

Support for Geophysics Research – Margaret Kendrick Blodgett Foundation, USA

Center for Nanostructuring – USA

Chaoul Center for Nanoscale Materials and Systems – Latin America

Stewart and Judy Colton Chair in Law and Security – USA

Research Fund in Brain Studies – Dana Foundation, USA

Isachar Fischer Center for Corporate Governance and Capital Market Regulation – Israel

Support for Research in East Asian Studies – Emily Furman, Monaco

Center in the nanotechnology field – Robert Goldberg, USA

William Gruen Research Fund in Psychology – USA

Support for Chemistry Research – Jarndyce Foundation, Switzerland

Institute for National Security Studies (INSS) – Frank Lowy, Australia

Marcel Reich-Ranicki Chair in German Literature – Germany

Chair in Analytical Chemistry – Prof. Mark A. Ratner, USA

Joshua Jortner Chair in Chemistry – Dr. Raymond and Beverly Sackler, USA

Yuval Ne'eman Chair in Physics – Dr. Raymond and Beverly Sackler, USA

Tikkun Olam Project at the Hartog School of Government and Policy – Pears Foundation, UK

Bernard Schwartz Chair in Nano-Scale Information Technology – USA

Edouard Seroussi Chair for Protein Nanobiotechnology – Israel

Jack H. Skirball National Center for Biomedical Nanoscience – USA

Alfredo Federico Strauss Center for Computational Neuro-Imaging – Latin America

Support for Felsenstein Medical Research Center – Estate of Geraldine Strauss, USA

## Campus Development

Renovation of Brender-Moss Library – Joseph Brender and Sam Moss, Australia

Morris and Ruth Shell Lecture Hall – Australia

Joel and Shelley Tauber Family America Honor Plaza – USA

## Student Aid and Research Fellowships

George and Mary Bloch Special Fellowships in Geophysics – Hong Kong

Alexandre and Raya Birguer Scholarship Fund in Music – Estate of Raisa Capelnicov, Belgium

Elias L. Gechman Scholarship Fund for Medical Students – Estate of Ethel T. Rishman, USA

Inge Gottfarb Graduate Scholarship Fund in Social Work – Sweden

Frania Landau Music Endowment Fund – Estate of Dr. Gisela Stein Gross and Edward Gross, USA

Dr. Gisela Stein Gross and Edward Gross English Literature Endowment Fund in Memory of Berta Landau Stein and Henry Stein – USA

Felix and Jenny Hofbauer Graduate Fellowship Fund – Jenfe Foundation, UK

Bruno Landesberg Fellowship Fund – Israel

Henry and Jindra Lasch Memorial Scholarship Fund – USA

Robert Neter Doctoral Fellowship Fund – Latin America

Bernard Osher Endowment Doctoral Fellowship Fund – USA

Rabbi Dr. Ignac Pap Graduate Fellowship Fund in Nanoscience and Nanotechnology – Liechtenstein

Herman and Margit Reichmannsdorfer Scholarship Fund in Economics and Theater Studies – Sweden

Kay and Bernard Silverman Scholarship Fund – Estate of Clara Kay Silverman, USA

Hilda Sofaer Doctoral Fellowships in Psychology – Philip Sofaer, USA

Swiss Friends Doctoral Fellowship Fund – Switzerland

Lois and Martin Whitman Scholarship Fund – USA

## Community

People's University project – Avi Naor, Israel

Israel Pollak Fund for Law Students from the Periphery – Israel

Tauber Initiative for the Advancement of Ethiopian Youth – USA

# International Programs

## → International Programs

The increasing globalization of TAU's study programs promotes two main goals: bringing increasing numbers of foreign students to the TAU campus and offering Israeli students the chance to attend prestigious programs jointly taught with the world's top universities. Both trends are gaining momentum at TAU.

## Opening TAU to the world

The University is ideally positioned to offer foreign students a uniquely international, regional and Israeli study experience. Recognizing this, New York University (NYU) has agreed in principle to establish an "NYU at Tel Aviv" program on the TAU campus. The project – details of which are being finalized and approved by both universities – joins successful programs already operating at TAU:

- School for Overseas Students: Nearly 20,000 students have completed the school's academic and immersion programs. Recent curricular additions include a joint engineering program with Boston University and an International Summer Yiddish Program that is the largest in the world.

- New York State/American Program, Sackler Faculty of Medicine: Including the class of 2007, this well-reputed medical training program has graduated 1,384 MDs since its founding in 1976. The program, chartered by the State of New York and accredited by the State of Israel, enables qualified North Americans to pursue a four-year medical program patterned after US medical schools.

## Bringing the world to TAU

- Two new joint law programs: The Buchmann Faculty of Law launched this year a new Executive LLM Program in Public and International Law with Northwestern Law School. This is the first program in Israel to award two degrees – one from each institution. Last year, an International Executive LLM in Commercial Law was established in conjunction with Boalt Hall School of Law at the University of California at Berkeley.

- International executive MBA: Operating since 1997, the Kellogg-Recanati International MBA Program is jointly run by the Faculty of Management – Leon Recanati Graduate School of Business Administration together with the United States' top-ranked Kellogg School of Management, Northwestern University. Participants come from Israel, Arab countries, Europe, the Far East and North and South America.

- Global Consulting Program: Also at the Recanati School is a unique, almost three-decade partnership with the Wharton School, University of Pennsylvania, that has MBA students from both schools prepare real-life marketing and strategic plans. Several other business schools from Europe, North America and Asia participate in the program.





> **Dr. Audrey Addi-Raccah,** Education – 2006 Davis Award presented by Educational Administration Quarterly for outstanding article of the year > **Prof. Yakir Aharonov,** Exact Sciences – EMET Prize > **Prof. Noga Alon,** Exact Sciences – Program Chairman for 2006 International Congress of Mathematicians, Madrid > **Prof. Aviv Amirav,** Exact Sciences – incumbent of the Chair in Analytical Chemistry > **Prof. Shoshana Anily,** Management – incumbent of the Chair for New Economy Information Systems > **Prof. Benjamin Arbel,** Humanities – incumbent of the Chair in the History and Culture of the Jews of Salonika and Greece > **Dr. Dorit Aram,** Education – Israeli Scientific Foundation Award for internship in a scientific center abroad > **Prof. Shai Ashkenazi,** Medicine – incumbent of the Lea and Arieh Pickel

# Research

## → Funding excellence

Over the last decade TAU doubled its allocation to research, reaching over $80 million in 2006, with 80% of funding coming from external sources. This investment is increasingly bearing fruit: commercialization income from Ramot, TAU's technology transfer arm, rose dramatically in 2006 to four times its annual average.

## Upgrading human and material resources

TAU continued this year to augment its scientific capabilities. To enhance research of the living cell, five confocal microscopes were purchased at a cost of over $1 million. This equipment will be installed in a new imaging laboratory for medicine and life sciences and will serve some 50 research groups.

TAU was also awarded a major grant from the Legacy Heritage Fund for bringing over leading young researchers. The grant, together with matching funds from TAU, has enabled Prof. Fernando Petolsky from Harvard to join TAU's nano-biochemistry group in a project managed by the Israel Science Foundation.

## European vote of confidence

Since Israel joined the EU Framework R&D program in 1998, TAU has had projects financed by the program at a total of $23 million. The following are examples of recently approved, EU-funded projects led by TAU researchers.

- **Predicting flash** floods: Prof. Colin Price and his group (Geophysics and Planetary Sciences) aim to establish a methodology using lightning to estimate rainfall location and intensity. The goal is to provide early warning of flash floods throughout the Mediterranean and Europe.
- **Are nano-particles toxic?** Prof. Rafi Korenstein's team (Physiology and Pharmacology) is investigating the effects of nano-particles on cell systems of various tissues and organs. As nanotechnology proliferates, the effect of industrially produced nano-particles on the human body is an increasingly significant concern.
- **DNA-based nano-devices:** Prof. Alexander Kotlyar (Biochemistry) is working on creating a DNA-based nano-device embedded in a nano-wire. Such a device represents a major step toward achieving self-assembled nano-sized computational networks with DNA recognition capabilities.

## A model of regional cooperation

The Minerva–Dead Sea Research Center continues its successful cooperation with the Palestinian Authority, Jordan, and research teams from Germany, Japan and elsewhere. A new on-site scientific observatory to be built at the Ein Gedi Field School, next to the Dead Sea, will house a research laboratory and visitors center, and will serve as a national hub for Dead Sea-related scientific activity.



Chair for Pediatric Research > **Prof. Leslie Banks-Sills,** Engineering – incumbent of the Diane and Arthur B. Belfer Chair in Mechanics and Biomechanics; honorary fellow, European Society of Structural Integrity > **Prof. Daphne Barak-Erez,** Law – incumbent of the Stewart and Judy Colton Chair in Law and Security > **Prof. Daniel Bar-Tal,** Education – 2006 Alexander George Award of the International Society of Political Psychology for best book in political psychology; 2006 Peace Scholar Award from the Peace and Justice Studies Association > **Prof. Alexander Battler,** Medicine – incumbent of the David Halperne Chair in Cellular and Molecular Cardiology > **Prof. Zvi Ben-Avraham,** Exact Sciences – member, Royal Netherlands Academy of Arts and Sciences > **Prof. Eyal Benvenisti,** Law – incumbent of the

# Students



→ This past summer did not bring with it vacation, but war. The Ruth and Allen Ziegler Student Services Division enlisted its many units and the TAU community at large to the wartime and post-war effort.

- Hosting of bombing victims: TAU opened its doors to refugees from the north, and the Ziegler Division organized beds, food and activities for Jewish and Arab families, about 800 people in all. Students who couldn't go home to the north were found alternative residences and work. The division also handled rescheduling of exams.
- Parent hotline: The Psychological Services Unit offered parents in the north support and advice on how to cope with children's long stays in shelters, and how to recognize non-normative reactions to stress.
- Post-war support for students returning from combat: As a joint initiative of the Student Welfare Unit, Psychological Services Unit, and NATAL (Israel Trauma Center for Victims of Terror and War), returning soldiers were monitored for signs of post-traumatic stress and offered treatment where required. Students who served were also given a tuition grant.

## Helping bolster under-represented groups

War efforts notwithstanding, the Zeigler Division carried on with its many other services for students needing financial or other aid. It granted scholarships to 1,100 students, while 2,900 hours of tutoring were provided to 390 students.

- Absorbing Ethiopian students: Reflecting well on the efforts of TAU to provide holistic support, this year saw a significant rise in the number of Ethiopian students enrolling at TAU.
- Fostering Arab students' sense of belonging: This ongoing program has made available Arabic speakers at the university registration center, extended exam periods, Arabic translations of university material and Arabic keyboards.
- Supporting single moms: This project aims at enabling single mothers, many of them Russian immigrants, to receive emotional, academic and financial aid so that they can complete their studies.
- Closing the digital divide: An estimated 4,000 to 5,000 students have no access to a computer. The Ziegler Division's aim is to have a reservoir of 5,000 computers on loan to students who can plug them in anywhere on campus.



Anny and Paul Yanowicz Chair in Human Rights > **Prof. Linda Ben-Zvi,** Arts – Jury Prize of US Theater Library Association for biography of Susan Glaspell > **Prof. Paul Biran,** Exact Sciences – Erdos Prize in Mathematics > **Prof. Arieh Bitan,** Humanities – Outstanding Scientist Award, International Urban Climate Association; 2006 Luke Howard Award > **Prof. Raymond (Reuven) Boxman,** Engineering – incumbent of the Kranzberg Chair in Plasma Engineering > **Prof. Amos Buchner,** Dental Medicine – honorary membership, British Society of Oral and Maxillofacial Pathology > **Dr. Tamar Cholcman,** Arts – Dan David Prize for Preserving Cultural Heritage > **Prof. Gideon Dagan, Engineering – member,** Israel National Academy of Sciences; Rothschild Prize in Engineering > **Prof. Marcelo Dascal,** Humanities – Prize

With the help of TAU's Israeli Friends Association and Development and Public Affairs Division, the Unit for Social Involvement at the Ruth and Allen Ziegler Student Services Division is creating partnerships and strengthening ties with the business sector for the benefit of the community. New projects, based on the principle of student volunteerism in exchange for scholarships, include the following:

## Out in the community

- **Cisco Systems**, in cooperation with the School of Computer Science, offers TAU students advanced technical training to pass on to high school graduates in underprivileged areas.
- **Citigroup** is training TAU students in economics and business administration to provide financial counseling through the Tel Aviv Municipality welfare services and ORT vocational schools.
- **Bank Leumi**, together with the Absorption Ministry and Yavne municipality, supports a project for tutoring matriculating Ethiopian high-schoolers in Yavne.
- **Computer Associates** adopted a 7th-grade class of immigrant pupils in Bat Yam, with TAU students providing intensive tutoring and enrichment.

## Bringing the community to campus

- **Youth University:** Bringing disadvantaged high school youth and minority groups to campus for a summer semester has been hugely successful. Now, prompted by overwhelming demand from communities and schools throughout the country, TAU has established a permanent Youth University on campus run by the Constantiner School of Education's Unit for Science Oriented Youth. It aims to become Israel's leading institution for expanding accessibility to higher education and helping bridge social gaps.
- **People's University:** Offering adult education to weaker groups in society, BA students present introductory courses in medicine, law and business administration to adults bussed to the campus weekly. The project is run in cooperation with the Constantiner School of Education, and this year included over 300 participants.

## New Price-Brodie projects in Jaffa

- **Literacy projects** for Arabic-speaking kindergarten children focused on teachers and mothers. Teachers were trained in promoting comprehension of stories, and they also helped establish lending libraries. Mothers were encouraged to read children stories emphasizing problem-solving, rhymes, letter recognition and vocabulary.
- **Vocational study programs** for Arabic-speaking youngsters included dental assistance, medical secretary skills and computer graphics, improving their prospects for future employment.



# Community

awarded by the International Society for the Study of Argumentation > **Prof. Nachum Dershowitz,** Exact Sciences – Logic in Computer Science (LICS) Test-of-Time Award > **Prof. Zvi Eckstein,** Social Sciences – Deputy Governor of the Bank of Israel and incumbent of TAU's Mario Henrique Simonsen Chair in Labor Economics > **Prof. Elisha Efrat,** Humanities – Israel Prize in Geography > **Prof. Shmuel Einav,** Engineering – member, International Academy of Biomedical Engineering > **Prof. Michael Eldar,** Medicine – incumbent of the Walton Chair in Interventional Cardiology > **Prof. Zvi Farfel,** Medicine – incumbent of the Dr. Boris (Dov) Quartin Chair in Chemical Pathology > **Prof. Margalit Finkelberg,** Humanities – Fellow, Israel Academy of Sciences and Humanities > **Prof. Menachem Fisch,** Humanities – incumbent

# Faculties

## → The Buchmann Faculty of Law

The Faculty is in the process of establishing Israel's first Center for Advanced Legal Studies, which is anticipated to become a global hub for high-level legal scholarship. The center will build on and expand the innovative research already being done at the Faculty, enrich Israel's legal system, economy and society, expand student horizons with advanced courses, and pursue extensive international ties.

### Limits to ancient Rabbinic authority

Based on evidence of a linguistic gap after the destruction of the Second Temple between the East (from Palestine to Babylon) and the West (the Greek-speaking world from Egypt and Turkey across to Spain), Dr. Arye Edrei and a colleague show decisively that rabbis of the Talmudic period never had authority over the whole of the Diaspora. Aramaic and Hebrew were lost to the Hellenistic Western world, where not even the Bible or Hagada had been translated.

### Private vs. collective ownership for fair distribution

In his book on distributive justice in the evolution of property law, Dr. David Schorr argues that whereas in the past property rights regarding water were guided by concerns of fair distribution, today they should focus on actual distribution of benefits. Using water as a test case, he shows that there are instances in which private property best serves distributive justice.

Israel's legal history: A question of identity

In his book Law and Identity in Mandate Palestine, Dr. Assaf Likhovski offers a new approach to studying colonial societies through understanding how law and identity interact. He shows how the British, Jews and Arabs all used the law to determine their identities, thereby creating a hybrid culture in which Western and non-Western norms existed side-by-side.

### Is the corporation the best form of business organization?

Prof. Ron Harris and colleagues from Yale, UCLA, and CalTech conducted a comparative study of the economic consequences of law on business over the past 200 years. Raising questions such as how to structure external regulations and corporations' internal governance so as to encourage investment and minimize insider abuse, the study challenges assumptions regarding the superiority of the corporate format of business organization, and the relative supportive roles of Anglo-American legal institutions vs. civil law institutions.

## → The Lester and Sally Entin Faculty of Humanities

One of the truly valuable contributions the Faculty can make is providing original and multihued viewpoints on Jewish, Israel and Middle East studies.

### Kabbalah meets the academy

Although considered as sacred as the Bible and Talmud – especially to students of Kabbalah, and despite its influence on modern Hebrew culture, The Book of Zohar is shrouded in mystery and there is no full and authoritative version of the text. Taking up the challenge, Dr. Ronit Meroz (Jewish Philosophy) has located over 650 Zohar manuscripts, thoroughly analyzed 200 of them, and demonstrated that the writing of the Zohar began in the early 11th century and continued for several hundred years. With a specially designed database and information retrieval system in place, Meroz is preparing a definitive edition of this ancient work.

### Unearthing the past





of the Joseph and Ceil Mazer Chair in the History and Philosophy of Science > **Prof. Amihay Freedman,** Life Sciences – incumbent of the Edward Seroussi Chair in Protein Nanobiotechnology > **Prof. Daniel Freedmann,** Law – appointed Israel's Minister of Justice > **Prof. Chaim Gans,** Law – incumbent of the Chair of Legal Theory and Applied Ethics > **Prof. Itzhak Gilboa,** Social Sciences – incumbent of the Chair in Economic Theory and Decision Theory > **Dr. David Ginat,** Education – Honorable Mention from Ministry of Education for contributions as head of Israeli Computer Science Youth Olympiad > **Prof. Jacob Glazer,** Management – incumbent of the Haimovich Chair for Strategic Management > **Prof. Yosef Gorney,** Humanities – Bialik Prize for lifetime achievement; Honorary doctorate in History of Israel from Ben

Retrieving sediments from the Negev highlands, Prof. Israel Finkelstein, incumbent of the Jacob M. Alkow Chair in the Archaeology of Israel in the Bronze and Iron Ages, together with colleagues at the Weizmann Institute, reconstructs the region's Stone Age economy, ecology and climate by identifying and analyzing animal remains.

Prof. Avi Gopher (Archaeology) and Dr. Ran Barkai (History) are joined by scientists from around the world in examining a rare find of well-preserved prehistoric stone tools, bones and micro-fauna in Qesem Cave, near Tel Aviv. Sophisticated techniques date the finds to between 400,000 and 200,000 BCE.

### Understanding our region's leaders

The book Commanding Syria, by Prof. Eyal Zisser (Middle Eastern and African History), has been hailed as a valuable and detailed record of Bashar al-Asad's first years of presidency. Evaluating Bashar's continuing hold on power, the book provides insights into the future stability of the region.

### Firsts in Israel:

- The Center for Iranian Studies focuses on Iranian and Iranian Jewish history and aims to help meet the global need to understand Iran's people and politics. It also hopes to promote better understanding between Israel and Iran, once former allies and now adversaries.
- A BA in American Studies is being offered by the newly renamed Department of English and American Studies.

## → The Yolanda and David Katz Faculty of the Arts

Unique international, inter-faculty and intra-faculty cooperative efforts keep the creative muse alive and productive.

### International arena

In a project to promote Israeli-German mutual understanding supervised by Prof. Freddie Rokem, former arts dean, the Faculty is joining the Berlin Free University's Institute of Theater Studies to examine the common history of Germans and Jews, and its tragic culmination. The aim: to engage in dialogue, confront barriers and create a common future.

The Art History Department, in cooperation with the French Language and Literature Department, organized an international colloquium on Paul Cezanne.

### New campus partnerships

In the approval process is a new MA Program in Creativity and Expressivity in the Arts, a collaboration with Medicine that opens vistas for both faculties. Another MA program, Conservation of Building Heritage, brings together art and environmental studies. The Film and Television Department is working with TAU's new Caesarea Rothschild School of Communication to create new opportunities for students pursuing intensive studies in all fields of communication.

### Architecture students build bridges

- Focusing on port cities, a binational workshop between Domos Academy, Milan, and the TAU Azrieli School of Architecture had students traveling to Italy to present their designs for Genoa, and Italian students coming to TAU to share designs for Haifa.
- In a joint project between students of architecture and theater, Tel Aviv's old bus terminal was turned into a theater festival venue.
- Taking up a common cause with TV and film students, architecture students designed the space for the newly inaugurated Anda Zimand Film Archive.

### On stage with the best

- Through close cooperation with the Israel Philharmonic Orchestra, students of the Buchmann-Mehta School of Music are integrated into the IPO and perform under world-renowned conductors. Similarly, voice students take part in productions of the New Israeli Opera and its young artist program, the Opera Studio.
- The Community Theater program of the Department of Theater Arts, which staged five performances at the department's Student Spring Festival, was awarded a grant from the Himmelfarb Foundation (US).

### Powerhouse at Cannes

Film students took five First Prizes at Cannes, and seven music students won prestigious international prizes.



Gurion University > **Prof. Avraham Gover,** Engineering – incumbent of the Jokel Chair of Electronics > **Prof. Itamar Gruenwald,** Education – Landau Prize for Jewish Philosophy > **Prof. (Emeritus) Zvi Hashin,** Engineering – Israel Prize in Engineering > **Prof. Yoel Kashman,** Exact Sciences – incumbent of the Alexander and Clara Stransky Chair in Nuclear Magnetic Resonance in Bio-Organic Chemistry > **Dr. Julia Kempe,** Exact Sciences – Alon Fellowship for outstanding young faculty > **Peter Keynan,** Arts – Israel Rokach Prize for Architecture > **Dr. Avital Kozlovsky,** Dental Medicine – Best Poster Award, 15th Annual Scientific Meeting of European Association for Osseointegration (EAO) > **Prof. Zev Levine,** Exact Sciences – appointed by International Union of Geophysics and Geodesy (IUGG) and World

# Faculties

## → The Raymond and Beverly Sackler Faculty of Exact Sciences

The Faculty honored its longtime benefactors, Dr. Raymond and Beverly Sackler, by dedicating the Schools of Physics and Astronomy, Mathematical Sciences, and Chemistry in their names. Research at these and other Faculty units is crossing disciplinary boundaries and yielding surprising new directions.

### Computing takes a quantum leap

By applying the laws of quantum mechanics to the workings of the computer, Dr. Oded Regev has found a way to break virtually any cryptographic system currently in use. Now he is exploring what else quantum computers do better, and whether he can use quantum principles to find new resistant cryptographic protocols. Future Internet security may depend on it.

### Abundant RNA editing – The difference between man and beast?

Dr. Eli Eisenberg's research group is studying the natural phenomenon of RNA editing whereby RNA is modified in a way that allows it to convey new genetic information. Aberrant editing has been shown to be associated with certain diseases, while its abundant occurrence in humans, especially brain cells, leads to speculation that this phenomenon is related to the accelerated evolution of the human brain. Diagnostic and therapeutic applications are being investigated.

### Bionic brain or living computer?

Prof. Fernando Patolsky, newly recruited from Harvard, is developing novel nano-devices that can detect single biological particles and disease markers. He seeks to build an interface between nano-devices and living neurons.

### TAU telescope in space

TAUVEX, the TAU ultra-violet telescope built by El-Op under the supervision of Dr. Noah Brosch and Prof. Hagai Netzer, is to be launched on board an Indian communications satellite in late 2007. Once in orbit, it will relay unique astronomical data about stars and galaxies that emit large amounts of ultra-violet radiation.

### Is global warming threatening our water supply?

Prof. Pinhas Alpert heads the Israeli contingent of the GLOWA Jordan River project that involves Palestinian, Jordanian and German partners. In a region that is among the world's most arid, with lowest water availability per capita, the project focuses on water management and how best to reap benefit from the region's water for sustaining humans and ecosystems under conditions of global change.

## → The Raymond and Beverly Sackler Faculty of Medicine

The Faculty is working vigorously to expand and upgrade its scientific resources. Only the most advanced laboratories and instrumentation can generate breakthroughs, a sampling of which follows:

### Causes of childhood leukemia

Extra chromosome 21, characteristic of Down Syndrome, is also commonly found in the leukemic cells of normal children. Through their study of Down sufferers with leukemia, Dr. Shai Izraeli's team is deciphering the genes on chromosome 21 that cause childhood leukemia in general. Another gene involved in childhood leukemia, SIL, was found to be critical in regulating cell division and to be over-expressed in a variety of cancers. Using genetic engineering, Izraeli showed





Meteorological Organization (WMO) as chairman and lead author of assessment of the effects of air pollution and biomass burning on precipitation > **Dr. Hadas Mandel,** Sociology and Anthropology – 2006 Rosabeth Moss Kantor International Award for Research Excellence in Families and Work > **Prof. Tsevi Mazeh,** Exact Sciences – incumbent of the Oren Family Chair of Experimental Solid State Physics > **Prof. Billie Melman,** Humanities – Landau Prize in European History > **Prof. Touvia Miloh,** Engineering – incumbent of the Lazarus Brothers Chair of Aerodynamics > **Prof. Arnon Nagler,** Medicine – Research Prize of the Jacqueline Seroussi Memorial Foundation for Cancer Resarch > **Prof. Abraham Nitzan,** Exact Sciences – member, American Academy of Arts and Sciences > **Prof. Mordechai Omer,** Arts

that eliminating SIL kills tumor cells. This makes SIL a promising target for future cancer therapies, demonstrating how research on one cancer can have general relevance for the whole oncology field.

### Toward defeating blindness

In studying the gene Pax6, known as the master regulator of eye development, Dr. Ruth Ashery-Padan established a unique experimental approach revealing that Pax6 is essential for lens formation and the development of retinal cells. Genetic dissection of Pax6 revealed that its dosage also plays a crucial role in the development of the iris. Further research aims at revealing mechanisms of eye tissue development and discovering genes responsible for eye disease such as cataract and glaucoma, bringing us closer to their defeat.

### Battling brain disease and injury

A protein discovered by Prof. Illana Gozes, incumbent of the Lily and Avraham Gildor Chair for the Investigation of Growth Factors, was found to offer potent nerve cell protection and cognitive enhancement. Startup company Allon Therapeutics is using this protein to develop drugs against Alzheimer's, multiple sclerosis, cognitive impairment from stroke or brain injury, and other conditions. Clinical trials are underway and future research aims at discovering other compounds to combat neurodegenerative disease.

### Improving public health in Israel

A new multidisciplinary Program for Emergency and Disaster Management, Israel's first, was opened this year by the School of Public Health, which has five departments and offers MPH degrees. The school's close cooperation and joint programs with HMOs is on a scale rarely seen in the world.

## → The George S. Wise Faculty of Life Sciences

Having initiated the combined study of biology and psychology, the Faculty now offers a new doctoral degree in neuroscience combining life sciences, psychology, medicine, engineering and computer science.

### What makes a cell do what it does?

How does a liver cell know to behave differently from a brain cell? These questions are being asked, and answered, in Prof. Martin Kupiec's laboratory where molecular genetics is combined with bioinformatics to study the most basic mechanisms of life's smallest building block, the cell.

### A closer look at the brain

Comparing MRI images of normal and diseased brain cells, Dr. Yaniv Assaf and team developed image analysis techniques that provide micro-structural information, expanding the horizons of MRI research. Continued breakthroughs in this area could lead to a non-invasive technique for brain biopsy.

### Plants get turned on too

Dr. Shaul Yalovsky discovered plant proteins that act as on/off switches for functions such as wood formation, root development, or response to pathogens. This has important implications for developing varieties suited to different soil types, with increased disease resistance, or with reduced wood content for production of bio-fuels.

### Promising cancer treatment

We all have a gene that suppresses tumor growth. Unfortunately, it often mutates, causing it to lose this ability or even encourage tumor growth. Prof. Beka Solomon developed an antibody that targets only the mutant gene. Its ability to restore natural tumor growth suppression with no side-effects makes it a promising candidate for cancer treatment.

Unexpected discoveries

While studying the role of proteins in degenerative diseases, Prof. Ehud Gazit let curiosity lead the way to a nanotechnology breakthrough. He discovered that the proteins formed themselves into hollow tubes. He introduced a silver mixture filling the tubes, then melted the protein and was left with nanowires, to the general excitement of the global scientific community.

### New facilities

- The Alfredo Federico Strauss Center for Computational Neuro-Imaging houses a new functional MRI, partially supported by the Raymond and Beverly Sackler Foundation [IS THIS CORRECT?], for advanced brain studies.
- A new X-Ray facility and structural biology lab will be used by all science research students.



– incumbent of the Carlo and Karin Giersch Chair for Research in Modern Painting > **Prof. Yoram Peri,** Social Sciences – Israeli Prime Minister's Prize for his book Generals in the Cabinet Room > **Prof. Moshe Phillip,** Medicine – incumbent of the Irene and Nicholas Marsh Chair in Endocrinology and Juvenile Diabetes > **Prof. Eli Piasetzky,** Exact Sciences – incumbent of the Wolfson Chair in Experimental Physics > **Prof. Ariel Porat,** Law – incumbent of the Alain Poher Chair in Private Law > **Prof. Dina Porat,** Humanities – selected by the UN and UNESCO as Academic Advisor to the Holocaust Memorial and Research Committee > **Prof. Eran Rabani,** Exact Sciences – 2006 Michael Bruno Memorial Award > **Prof. Yaakov Raz,** Humanities – Order of the Rising Sun bestowed by the Emperor of Japan citing years of

# Faculties

## → The Gershon H. Gordon Faculty of Social Sciences

### How do I communicate? Let me count the ways.

The Participatory Social Marketing Program of the new Caesarea Rothschild School of Communication is using an array of modes of communication to promote social issues. Community theater enables youths to air forbidden topics; radio-drama in Amharic addresses needs of the Ethiopian community; an Information Resource Center aims at promoting health; and edutainment is being applied to advancing social issues.

### We can read your thoughts

Dr. Talma Hendler (Psychology) detects the covert thoughts of subjects in her laboratory by watching their brain activity through a non-invasive method combining MRI and EEG. Done in collaboration with the Faculties of Medicine, Exact and Life Sciences, her study on IDF recruits is testing the hypothesis that brain patterns in response to subliminal (barely perceptible) stimuli can predict ability to handle stress or propensity to developing post- traumatic stress disorder.

### The riddle of war

Why do people go to war? Is it human nature or a cultural invention? These are some of the questions addressed by the highly praised book of Prof. Azar Gat (Political Science), War in Human Civilization, which traces war throughout human history from the earliest hunters to today's terrorists. The Times Literary Supplement included the work in its Books of the Year list.

### Bilateral study of immigrants

In cooperation with the German Ministry of Science and Education, a joint research project compares second-generation immigrants from the former Soviet Union in Israel and Germany, focusing on factors influencing education decisions and transition to adulthood. Under the supervision of Professors Yossi Shavit and Noah Levine-Epstein (Sociology and Anthropology), research findings will be compared at conferences in both countries. The collaboration includes an international summer school in immigration studies.

### Additional news

- Continuing its joint workshops with the University of Chicago, the Department of Public Policy hosted this year's annual event on globalization. The next workshop, to take place in Chicago, will focus on poverty and inequality.
- A new MA Program in Social Change Organizations for NGO workers aims at encouraging research and professionalism in the field.

## → The Faculty of Management – Leon Recanati Graduate School of Business Administration

Research shows that good management, applied to any endeavor or aspect of life, is the key to good results.

### Managing information

By transferring conventional database records into a binary database, and storing them as strings of 1's and 0's in a matrix, Prof. Israel Spiegler achieves faster machine response times while enabling the uncovering and generating of new knowledge using clustering and data mining techniques. Now patented, this storage scheme and related algorithms are moving from theory to application.

### Managing the self

Self-control has long been a topic of interest in economics, psychology, social work, public policy and marketing. Dr. Danit Ein-Gar adds a new slant by relating self-control to individual differences in consumer behavior. Providing insights into areas such as optimal consumption, her work has applications for public policy and marketing.





excellence in promoting the culture of Japan > **Asher Rotkop,** Information, Technology and Computing Division – IT Award > **Prof. Ariel Rubinstein,** Social Sciences – EMET Prize > **Prof. Moshe Semyonov,** Social Sciences – incumbent of the Bernard and Audre Rapoport Chair in the Sociology of Labor; recipient of the 2006 Rosabeth Moss Kantor International Award for Research Excellence in Families and Work > **Dr. Doron Shabat,** Exact Sciences – Annual Prize of the Israel Chemical Society to Outstanding Young Scientist > **Prof. Yosi Shacham-Diamand,** Engineering – incumbent of the Bernard L. Schwartz Chair for Nano-Scale

### Managing genealogies: Predicting future trends?

Prof. Shmuel Ellis and colleagues studied Israel's 2005 telecommunications sector and revealed five companies that each "parented" a separate genealogical line of businesses. The character of these lines was found to depend on the parent company's entrepreneurial tendencies and their imprinting these on their "offspring." Development and analysis of such genealogies may enable the forecasting of directions of future industry growth.

### Managing life: The happiness question

Is happiness dependent on personality or circumstance? Dr. Daniel Heller tested the relative merits of two approaches, one that sees subjective well-being (SWB) as based mainly on personality traits, and the other as contingent on life situations. He found that the answer lies somewhere in between. Personality, or temperament, seems to be the best predictor of SWB, when it is considered together with measures of satisfaction in particular life domains such as job and marriage.

### Managing management

The MBA curriculum is undergoing reform. It will stress a more unified core curriculum, added compulsory courses such as Ethics, and a wider range of electives. The caliber of students accepted into the program continues to be high; according to recent surveys, the median score of incoming MBA students is in the 90th percentile of all those who take the GMAT entrance exams.

## → The Iby and Aladar Fleischman Faculty of Engineering

As engineering scientists manipulate materials in ever-smaller dimensions, the impact on our world becomes greater.

### Power in smaller packages

Imagine a nano-battery powering each of the millions of transistors in an electronic chip, rather than their depending on a single power source. This breakthrough, achieved by Prof. Menachem Nathan with Professors Emanuel Peled and Diana Golodnitsky, simplifies the process of distributing energy in a chip, previously done through millions of tiny power lines. Featuring innovative architecture and coating technology, it is patent protected worldwide.

### Diagnose cancer by swallowing a pill?

This is one possible outcome of Dr. Jacob Scheuer's efforts to manipulate light, confining it into ever smaller spaces. His optical micro-chip and nano-lasers could make communication more efficient, or be used to develop an on-chip micro-laboratory. As a powerful pill-sized light source, the nano-laser's biomedical applications include non-invasive diagnostics and treatment, while for the security market nano-lasers make amazingly powerful sensors.

### From manipulating light to controlling flow

Prof. Avraham Seifert's research group is studying methods of altering the flow of fluids in ways that allow them to increase lift of aircraft, reduce drag on heavy trucks, and even enhance the mixing of chemicals in micro-sized medical devices.

Turning medical image databases into powerful diagnostic tools

Dr. Hayit Greenspan's team is among the few groups in the world focused on medical image processing. They developed a system for intelligent image retrieval and are collaborating with a medical team to apply the system toward evaluating multiple sclerosis disease processes and studying the evolution of lesions involved in cervical cancer.

### Impacting world high tech

Two successful startups – M-Systems and Epix – are based on technologies developed at the Faculty. The companies were recently hailed as offering the most innovative technologies of the year and were purchased by international concerns.

### Investing in student labs

Students now enjoy upgraded Electronics Laboratories thanks to a major investment of faculty resources. Used for both teaching and research, the labs provide over 50,000 student hours annually, house new equipment and, with all electronic devices now connected to computers, allow on-line analysis of results.



Information Technology > **Prof. Ruth Shalgi,** Medicine – incumbent of the Gabriel Pinkas Chair for the Prevention and Diagnosis of Congenital Anomalies > **Dr. Roded Sharan,** Exact Sciences – Krill Prize for outstanding young researchers > **Prof. Yosef Shiloh,** Medicine – Fellow, Israel Academy of Sciences and Humanities > **Prof. Israel Spiegler,** Management – incumbent of the Mexico Chair in Management Information Systems > **Prof. Ruth Stavi,** Education – appointed by the Chief Scientist of the Ministry of Education to serve in a think-tank on cognition and education > **Prof. Sidney Strauss,** Education – member, National Academy of

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## → The Stanley Steyer School of Health Professions

The school is planning a new MA in Expressive Therapy in collaboration with the Arts, as well as new joint advanced degrees in cooperation with the School of Public Health.

### Motor skills mean more than you think

Dr. Orit Bart (Occupational Therapy) studied motor abilities in kindergarten children and found that, in addition to the known correlation between visual-motor integration and academic achievement, other motor functions can predict social and emotional adjustment to school.

### How much do infants understand?

Aiming to shed light on pre-verbal language development for intervention with hearing-impaired infants, Prof. Liat Kishon-Rabin (Communication Disorders) is investigating how small babies perceive speech and recognize words within a stream of sounds. The speech perception lab used in the study is the first of its kind in Israel.

### The grieving process

Dr. Mali Ehrenfeld (Nursing) coordinated a study of the grieving process of families who donated the organs of a child they just lost. Her examination of the effects of the donation on the families' long-term adjustment to loss has implications for rehabilitative intervention.

### The molecular structure of aging

Dr. Eli Carmeli (Physiotherapy) collaborated with medical researchers to discover the molecular mechanisms behind bone and muscle aging.





Education > **Prof. Haim Tal,** Dental Medicine – 3rd Prize in the 2006 annual research competition and co-recipient of Best Poster Award, European Academy of Osseointegration > **Prof. Manuel Trajtenberg,** Social Sciences – Head of the National Council for Economics established by Israeli Prime Minister Ehud Olmert > **Prof. Ran Tur-Kaspa,** Medicine – incumbent of the Josefina Maus and Gabriela Cesarman Chair for Research in Liver Diseases > **Prof. (Emeritus) Arkadi Tzinobar,** Engineering – incumbent of the Aeronautics Chair, Imperial College London > **Prof. Shulamit Volkov,** Humanities – Fellow, Israel National Academy of Sciences and

## → The Bob Shapell School of Social Work

The school is shifting focus from problematic behaviors and how to suppress them, to personal strengths and how to enhance them.

### The power of hope

Supervised by Prof. Riki Savaya and Dr. Ronit Lechtentrit, Dr. Ofir Levi addresses issues of trauma, post-trauma, loss and grieving in a qualitative study of emotionally battle-scarred soldiers. Through in-depth interviews he examined their strengths, focusing on the phenomenon of hope and how it is used as a tool for coping. Identification of successful coping processes will be applied to the development of effective treatment methods.

### Shaping children's behavior – Punishment or praise?

Under Professors Michael Rosenbaum and Tammie Ronen, doctoral students examined aggressive behavior for insights into future intervention programs. Nirit Weissbrod demonstrated that threat of punishment is ineffective with children who primarily seek excitement and action, while Nomi Eppel found that the combination of self-control and social goals reduces the likelihood of angry and negative behavior.

### Impacting society

Dr. Idit Weiss challenged social policy students to engage the media, raise social issues and suggest solutions. The project resulted in over 30 published news articles and numerous radio broadcasts, creating significant impact. In addition, it empowered students with the knowledge that they can be agents of social change.

## → The Jaime and Joan Constantiner School of Education

### Understanding language impairment

In a cooperative European cross-linguistic study, Dr. Naama Friedmann studied children with specific language impairment (SLI), a disability making them unable to understand or generate sentences with relative clauses and who/what/where questions. Studying various languages and identifying what specific syntactic areas are impaired helps shed light on this disorder.

### Mothering and literacy

Dr. Dorit Aram is participating in a cross-cultural study involving Hebrew, Spanish and Chinese-speaking mothers and children to ascertain how writing skills are conveyed. Taking into account each language's written structure, Aram hypothesizes that Spanish-speaking mothers emphasize vowels, Hebrew-speakers consonants, and Chinese mothers, units of meaning.

### Helping students learn

An international workshop on “Guided Construction of Knowledge in Classrooms” was headed by Prof. Tommy Dreyfus and focused on how students understand and internalize knowledge. The interdisciplinary workshop, which included experts in knowledge construction, science and mathematics education, educational technology and more, is generating a collaborative book.

### Assisting an adopted school

Under the direction of Prof. Naama Sabar Ben-Yehoshua, the Centro Ibn Gabirol school of Madrid is being aided in maintaining a high academic level and strong Jewish and Israeli education. Under this program, the school has grown from 200 to 300 students.



# Schools

Humanities > **Prof. (Emeritus) Max Weinreb,** Dental Medicine – Honorary Fellow, Sackler Faculty of Medicine > **Prof. Hana Wirth-Nesher,** Humanities – incumbent of the Samuel L. and Perry Haber Chair for the Study of the Jewish Experience in the United States > **Prof. Haim Wolfson,** Exact Sciences – Scientific Program Chair of 5th European Conference on Computational Biology > **Prof. Eli Yassif,** Humanities – incumbent of the Zvi and Sara Berger Chair for the Study of Jewish Folk Culture

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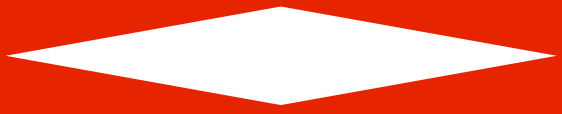

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