2012 Issue

TAU International

Peres' Young Scientists

Educating for Peace

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TEL AVIV UNIVERSITY REVIEW

Personalized Medicine

"It doesn't get more personal than this."

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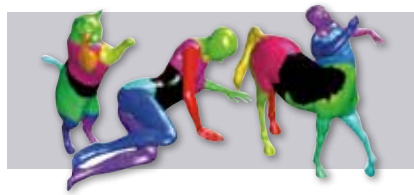

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2012 Issue

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TEL AVIV UNIVERSITY אוניברסיטת תל-אביב

Dear Friends,

The year 2012 began with the wonderful news that the Dean of Tel Aviv University's Buchmann Faculty of Law, Prof. Daphne Barak-Erez, was appointed a Supreme Court Justice. Her selection underscores the continuing – and highly influential – role of TAU faculty members and graduates in **shaping Israeli society** through public service.

The University's drive to provide the very best conditions for **interdisciplinary brain studies** and research gained momentum with the establishment of the School of Neuroscience and School of Psychological Sciences. We are dedicating the School of Neuroscience in the name of Israeli industrialist and philanthropist Sami Sagol, a TAU honorary doctor and governor, and a long-time supporter of brain research in Israel.

TAU International launched five new English-language master's programs this year and two undergraduate programs for next year, including Israel's first International BSc in Electrical Engineering. Our increasingly globalized campus welcomed 1,000 foreign students this year.

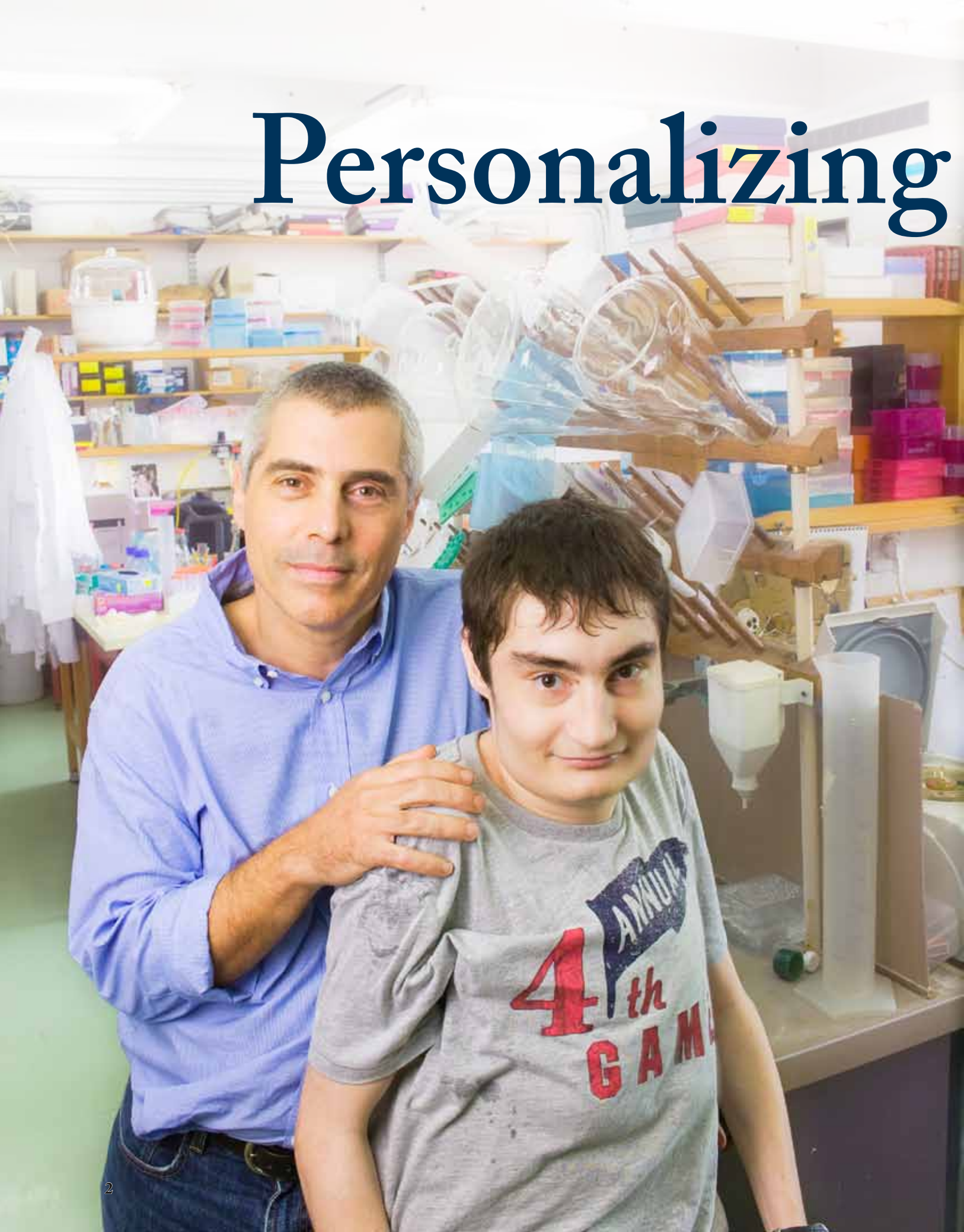
Tel Aviv University was the only university in Israel to be awarded a senior partnership in the three inaugural **Centers for Research Excellence**, known as I-CORE, being set up with government and private funding. One is in genomic science, the subject of this issue's cover story; one in cognitive science, and one in computer science, to be led by TAU's Blavatnik School of Computer Science. I-CORE funding will enable Tel Aviv University to recruit young faculty from top schools abroad, fulfilling a top university and national priority and further strengthening TAU's global standing as a leading center for academic research.

Yours sincerely,

Joseph Klafter

Professor Joseph Klafter
TAU President

Personalizing



Medicine

Neurobiologist Miguel Weil has **little time left.** Prof. Weil's son, Nir, an affable 21 year-old who has just finished his national service, suffers from a **Jewish genetic disorder** called familial dysautonomia (FD). It's a progressive disease that eats away at the peripheral nervous system, which regulates essential bodily functions like blood pressure. Victims die, on average, at 25 years of age.

By Rava Eleasari

Most Jewish genetic diseases are rare, explains Weil, with each claiming a few hundred sufferers in the entire world. Known as "orphan" diseases, they are far too uncommon for pharmaceutical companies to invest the tens of millions of dollars needed to develop a drug for treatment.

"That's where Tel Aviv University comes in," says Weil. "We have the experimental set-up to tackle medical problems that others do not, because our goal is not profit but *knowledge*. And using that knowledge to save lives."

Weil belongs to a diverse group of scientists at Tel Aviv University who are working in the area of personalized medicine, also known as genomic medicine. Researchers in the field capitalize on the growing amounts of data on the complete genetic make-up of individuals to tailor preventive, diagnostic and treatment strategies for both rare and common diseases.

"Whole genome sequencing and other advanced screening technologies are changing the way we're practicing medicine," says Israeli-American geneticist Karen Avraham, Vice Dean of the Sackler Faculty of Medicine. She serves on the board of the recently established Israel Center of Research Excellence (I-CORE) in Genomic Medicine, in which TAU is a partner.

"We're talking about using information we have on the genetic origin of diseases among individuals and groups to better target care," Prof. Avraham says.

Tel Aviv University's strength in the field, stresses University President Joseph Klafter, "draws on the robust interdisciplinary research and teaching environment we've created for tackling complex problems, and especially on our collaborative links with major hospitals."

Race for a curative compound

Prof. Weil, a member of the Department of Cell Research and Immunology and Head of the Smolarz Family Graduate School of Life Sciences, George S. Wise Faculty of Life Sciences, is searching for new drug candidates for Nir's disease and other heritable disorders.

Funds given by a Mexican donor who recently lost two sons to another rare and devastating disease, called MNGIE, enabled Weil to build the most sophisti-

cated robotic facility in Israel today for fully automated drug screening.

The research team uses live stem cell samples from patients as a lab-based model for personalized medicine. First they compare the diseased cells with healthy ones, trying to find the biological differences between them. Then they attempt to identify the compound that will counteract these differences and transform a sick cell into a healthy one.

"It's like looking for a needle in a haystack," says Weil, "but the screening equipment can analyze millions of diseased cells a week that have had different chemicals and drugs added to them." What Weil and his team are looking for is a "hit" – when the machine reads that a compound has made a positive difference. At that point, the researchers have to investigate what's happening in the diseased cell on the molecular level, and to use this understanding for developing a drug candidate. The Cell Screening Facility in Personalized Medicine established by the Mexican Friends of TAU is the first such unit in the world that deals with rare Jewish diseases.

20,000 Number of genes in the human genome

.1% Rate of genetic variation among people

Estimated number of mutations in that .1%: **10-12 million**

6,000-7,000
Number of rare, "orphan" diseases in the world

80%
Percentage of rare diseases of genetic origin

60,000
Estimated number of rare disease sufferers in Israel

250 million
Estimated number of rare disease sufferers in the world

"What's incredible here are the real families involved – it's not just about technology," says Weil. "This is personalized medicine that is as personal as you can get." Until just recently Weil's son Nir worked as a lab assistant at Tel Aviv University as part of his national service, and he is now preparing himself for university admission examinations.

While the research team aims to develop personalized treatment for very small groups of sufferers of FD and MNGIE, they are also applying their techniques and findings to more widespread genetic diseases such as ALS and Huntington's.

A disease of one

What happens when a disease is so rare that only one person suffers from it, or one family, and doctors don't even know what to call it?

"I'm interested in families that have lost hope for a diagnosis for their sick children," says Lina Basel, a physician and specialist in orphan diseases who transfers, or in scientific parlance, "translates," laboratory knowledge into clinical answers.

Born and raised in Lithuania, and with a charming unidentifiable lilt when speaking, Basel received her MD from the University of Vilna, immigrated to Israel in 1991, and earned a doctorate in molecular genetics at TAU's Sackler Faculty of Medicine. Prof. Yosef Shiloh of the Department of Human Molecular Genetics and Biochemistry was her PhD supervisor and "one-man absorption program," she recalls, "inviting me home to join his family for dinner and helping me forge my career path."

Today, as Director of Pediatric Genetic Services at the TAU-affiliated Schneider Children's Hospital, Rabin Medical Center, Dr. Basel receives young patients from all over Israel with genetic disorders that have no description in medical literature.

After taking a blood sample, she uses sequencing technology to study the genetic material, searching for the gene mutation that causes the disease.

Once Basel has identified the faulty gene, she can advise on how to better manage the disease, and she can also provide genetic counseling and pre-natal diagnosis to family members to make sure their future children will not be similarly afflicted.

In one instance, she recounts, a family came in with a teenage boy of 15 who suffered from scoliosis and weak, fracture-prone bones. His hair was thinning and he looked prematurely old. Two uncles had the same syndrome, but other than the three, there were no known cases in the world.

Basel succeeded in tracking down the diseased gene. It was expressed, or active, in various tissues of the body

Dr. Lina Basel counsels a family at the TAU-affiliated Schneider Children's Hospital.

Dr. Basel's key frustration: "That even if I know what the culprit gene is, I can't offer a cure. People want it. They expect it. But we're not there yet."

Dr. Basel's key hope: "Because we can now sequence the genome of individuals, we will soon have an answer for all those people who ask, 'What's wrong with me?'"

and especially in the bones, causing severe osteoporosis. While there was no cure for the boy, Basel could start treating his osteoporosis with drugs and prevent further damage. But what really brought hope to the family was that the disease was finally diagnosed. It received a name: *Macrocephaly-Aalopecia-Cutis laxa-Scoliosis* (MACS).

"The psychological dimension is huge," stresses Basel, who has so far identified causative mutated genes for 10 previously undefined diseases that no one else could. "You can't imagine the relief these families feel when someone finally tells them what their child has."

A former recipient of a TAU Marguerite Stolz Research Fellowship, Basel has set up a national, Hebrew-language database, called Orphanet-Israel, with information on rare genetic diseases for doctors and patients. The idea originated in France, and Basel's goal is to create a network of all the clinicians and scientists working on orphan diseases in Israel. She has no funding for the database. She is doing it alone, at home, on the weekends.

Meanwhile, Basel's mentor, Yossi Shiloh, has shown that research on orphan diseases – in his case, the genetic disorder ataxia telangiectasia (A-T) – can lead to breakthrough insights on general cellular processes.

Prof. Shiloh recently became the first Israeli scientist to win the G.H.A. Clowes Award of the American Association for Cancer Research for discovering a key gene that protects the genome from radiation damage – important for understanding genetic predisposition to cancer. Shiloh, who holds the David and Inez Myers Chair for Cancer Genetics and directs the

Specific Pathogen Free (SPF) Facility housed in the David and Inez Meyers Building for Transgenic Modeling of Human Disease, won the Israel Prize for 2011 and EMET Prize in 2005 for his work.

Diagnosing or preventing common diseases

Mining people's genetic material can unearth the cause of prevalent disorders, not just rare ones.

Prof. Karen Avraham began working on hereditary deafness when she joined the Sackler Faculty of Medicine's Department of Human Molecular Genetics and Biochemistry in 1996. About 50% of hearing impairment can be traced to genetic causes, and Avraham was intrigued to learn that, in the Middle East, many extended families and clans were known to have a much higher incidence of deafness than the rest of the population.

Prof. Avraham quickly established connections with clinical genetic labs all over Israel, as well as in the Palestinian Authority, and has since performed a number of studies on families and villages that generated scientific gold: the discovery of 10 new genes implicated in hearing loss. Major funding for this work has come from the United States' Office of American Schools and Hospitals Abroad (ASHA), which supports a Laboratory for Middle Eastern Genetic Diseases at TAU.

Prof. Karen Avraham

One Jewish clan that Avraham studied came originally from Mosul, Iraq. Intermarriage among extended family members had led to 40% of all offspring going deaf by the age of 20 – compared to less than 1% in the general population. Avraham and her team found the responsible gene and also determined that it was recessive, that is, both parents had to have it. Armed with this information, medical geneticists could provide genetic counseling.

"Here's the most satisfying part," says Avraham. "By working with doctors and fine-tuning genetic testing for family members, we could break the chain of inheritance."

Among Avraham's latest discoveries is the mechanism by which auditory cells die in the ear. This finding is important for possibly rescuing these cells, or regenerating them, in the future.

But what excites her most is a method she's developed in collaboration with Prof. Moien Kanaan from Bethlehem University for improved diagnosis of genetic hearing loss in patients. "Until fairly recently, researchers could test for one or a few deafness genes at a time, a costly, hit-or-miss process that could take years," explains Avraham. "With our new method, we can scan all the 250 known genes for deafness – simultaneously – for less than $500 per person, and provide results in a few weeks."

The joint Israeli-Palestinian research, funded by the United States' National Institutes of Health (NIH), capitalizes on a shortcut gene sequencing technology called "exome sequencing." It scans just those regions of DNA that encode proteins – regions that comprise only 1% of the human genome but that are implicated in about 85% of disease-causing mutations.

"The important thing about this technology – and about genomic medicine in general – is that the faster, cheaper methods can bring about much earlier diagnoses for diseases," says Avraham. "And the earlier and more accurate the diagnosis, the better doctors can predict the course of the disease and prescribe treatment.

Determining risk

Pinpointing who is at greater genetic risk for complex diseases such as cancer, diabetes and heart disease is "tricky" says new faculty member Eran Halperin. He combines his knowledge in human genetics, computer science and mathematics to sleuth out disease-causing mutations.

This machine reads faster than you do. Dr. Noam Shomron by the genome high-throughput sequencing machine on campus.

"We might find a common gene variant that seems to be associated with a certain type of cancer," Dr. Halperin elaborates, "but there's no one-to-one correspondence. We can't say with certitude that people who have the mutated gene will get the disease, or that people who don't have the mutated gene will not get the disease.

"Other, more hard-to-find mutations may also be involved in triggering the cancer, in combination with each other or with environmental and lifestyle factors."

Halperin, who has a joint appointment at the Blavatnik School of Computer Science and the Department

Sequencing Leap

The first thing you see when you walk into Noam Shomron's Genome High-Throughput Sequencing Laboratory are names on the whiteboard. Dozens of them. These are the physicians at 7 major TAU-affiliated hospitals, together with some 25 basic scientists across the TAU campus, who collaborate with Dr. Shomron on producing comprehensive analyses of people's genetic blueprints.

It took $3 billion and 15 years to sketch out the first complete picture of human genetic material under the Human Genome Project. The subsequent development of high-throughput or "deep" sequencing technology reduced this process to $10,000 and one week. That was up until a year or so ago. Now it can be done with $1,000 in one day.

"This is a huge scientific leap – comparable to going from a magnifying glass to an electron microscope," says Dr. Shomron, who completed his PhD at Tel Aviv University and his post-doctoral studies at MIT. He was recruited three years ago to TAU's Department of Cell and Developmental Biology, Sackler Faculty of Medicine, to preside over one of two high-throughput sequencing machines purchased with the support of the Wolfson Family Charitable Trust, UK. The other machine is at the TAU-affiliated Sheba Medical Center. Additional Wolfson funding this year will enable TAU to significantly expand its facility.

Calling himself a "genomicist," Shomron's own research combines technological and computational methods to explore the role of microRNAs, tiny snippets that regulate gene activity, in the development of diseases and in the way patients react to medications. He foresees therapeutic results from this work in five to ten years.

of Molecular Biology and Biotechnology, worked with a group at UC Berkeley on non-Hodgkin's lymphoma – a relatively common form of cancer. The researchers measured 370,000 tiny genetic mutations, or SNPs (pronounced "snips"), that are known to be common among Hodgkin's sufferers. Using computational and statistical methods, they separated damage-causing SNPs from irrelevant ones, or in lab parlance, "real signals from just noise." Ultimately, they found the one SNP that points to higher risk for non-Hodgkins lymphoma.

Currently Halperin is working in a consortium of 20 research groups throughout Europe called "Cardiogram." They have pooled their data on 20,000 heart patients and 60,000 control subjects who donated samples for whole genome SNP analysis. Findings so far have revealed 13 more previously unknown mutations that increase risk for coronary artery disease.

"The relevance of all this to personalized medicine," says Halperin, "is that people at risk can be *watched more closely*. They can be counseled to reduce other risk factors like smoking and poor diet, and they can be tested for the disease earlier."

Paying closer attention

When it comes to risk, genomic science is beginning to provide answers for another mystery: Why do certain people succumb to more lethal versions of diseases, while others do not?

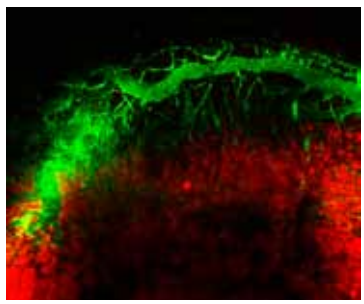
Today, about a fifth of breast cancer patients will develop metastasis and they will die. Scientists have long known which gene triggers metastasis. Called MET, it not only induces proliferation of cancer cells, but also activates their spontaneous spread. A battery of MET-inhibiting drugs are in late stage clinical trials and promise to save tens of thousands of lives.

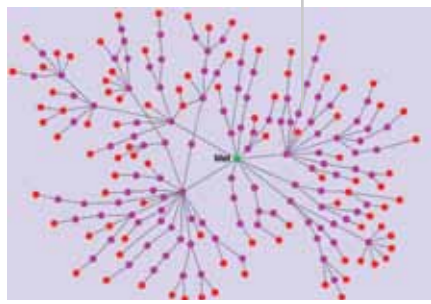
But how will doctors know who to give them to?

Personalizing the risk assessment is the goal of MET researcher Ilan Tsarfaty, Chair of the Department of Human Microbiology and Immunology, Sackler Faculty of Medicine.

"If oncologists give aggressive anti-MET therapy to all breast cancer patients, 80% of them won't need it. The MET in their tumor is switched off to begin with," explains Prof. Tsarfaty. "Meanwhile, the 20% of patients who are genetically predisposed to metastasis – whose MET will be activated – may not necessarily receive the careful treatment and attention they need."

Tsarfaty decided to find out which women were at risk. In a team that included TAU computer scientists Roded Sharan and Eytan Ruppin, MD-PhD student/graduate Gidi Stein and then PhD student Nir Yosef, the researchers identified a genetic "signature" – 130 genes that respond, or are altered, upon activation of MET. They visualized the network of molecular interactions, called "pathways," connecting MET to the affected genes. And finally they





Left: Metastasis in action – Confocal microscopy image of cancer cells, in red, spreading into healthy tissue. Blood vessels in green.

Right: METwork – A visualization of the network of MET molecular pathways.

People of the Book

Take the number of letters in 1,000 bibles, says computer scientist Ron Shamir. That's about the number of "letters" – the 3 billion chemical bases – making up each person's total DNA.

However, only 2 percent of these letters spell out, or encode, the 20,000 or so genes in our bodies. How can scientists know which sequence of letters translates into a working gene and which does not? Moreover, how can they determine which gene variant or mutation is responsible for diseases?

"This is where bioinformatics comes in – the point where biology and computer science intersect," says Prof. Shamir, who heads TAU's **Edmond J. Safra Bioinformatics Program**.

The field of bioinformatics emerged in the late 1980s and early 1990s in response to the huge computational demands of the Human Genome Project. Embracing the field early, Tel Aviv University has since produced the largest group of bioinformatics specialists in Israel under the Edmond J. Safra Program and ranks among the world's leaders in the field.

"We're coming up with new mathematical tools and software to analyze the data," elaborates Shamir, who is a faculty member of the Blavatnik School of Computer Science at the Raymond and Beverly Sackler Faculty of Exact Sciences. "And the data sets are just getting bigger as genome sequencing becomes more widespread."

One of the challenges is figuring out the genome's rules. Researchers must determine the sequence characteristics of the gene-coding regions versus the non-coding regions, and develop algorithms to statistically infer where the genes are. Complicating matters is the surprising fact that human genes are not contiguous in the DNA sequence. They can be made up of 5 to 30 unjoined segments.

"That's a low-end problem," notes Shamir. Suppose, he continues, that the 20,000 human genes and their corresponding proteins are identified. Yet in a living cell, all these proteins are co-existing and interacting, and this is what makes the cell and the living organism function. "Knowing what each gene does still doesn't tell you the whole story," Shamir says.

He offers another analogy to help understand the dimensions of the problem. "If the genome is like an orchestra with 20,000 instruments, knowing what the flute plays does not help you hear the score or know the composition."

The need to understand biology not just on the molecular level but as a complex system has led to a new field – systems biology – which TAU has been building up in recent years.

"Funding from the Edmond J. Safra Bioinformatics Program has enabled us to recruit the best young researchers and nurture a strong body of interdisciplinary students," stresses Shamir. "Theoreticians collaborate with experimentalists, campus groups with hospital clinicians. The pace is break-neck. We have to be agile and quick."

checked this network against tissue samples from breast cancer patients to isolate 9 genes that, under laboratory conditions, reliably predicted MET risk.

Soon, hopes Tsarfaty, doctors will be able to screen for the 9 telltale genes in a biopsy, and to offer more timely and accurate therapy based on each patient's genetic makeup.

Tsarfaty has also developed an imaging technique at the Sackler Institute for Molecular Medicine for showing in a patient's body, in real time, when MET is active and, after targeted drug therapy, inactive. "This will personalize the care to the highest degree. We will be able to actually see, as a live image, if a certain drug is inhibiting the MET or if we need to change the medication," he says.

Genetic component of drug response

"The era of one medicine for everyone is ending," asserts SNP sleuth Dr. Halperin. "The new paradigm will involve doctors prescribing drugs according to an individual's genetics."

Advancing this goal is extremely important, given that in the United States alone an estimated 2.2 million people either fail to respond to medications or experience serious reactions each year. An additional 100,000 people die from harmful effects.

At the TAU-affiliated Sheba Cancer Research Center at Tel Hashomer Hospital, TAU professor Gideon Rechavi leads one of the best-known groups in the world for identifying genes involved in cancer drug response and transferring this knowledge to the clinic.

In one project, Prof. Rechavi's group is studying mutations that cause certain patients with chronic myeloid leukemia, a cancer of the white blood cells, to develop resistance to a life-saving drug. The scientists are developing a genetic testing technique for finding out quickly and accurately who has these

mutations. This will enable physicians to change drugs immediately for patients who test positively, and greatly improve their chances of becoming disease-free.

Rechavi, who also holds TAU's Djerassi Chair of Oncology, beams with optimism at this prospect.

Another type of tailored therapy involves dosage.

Acute lymphoblastic leukemia (ALL) is a common childhood cancer. The overall cure rate is about 80%, and treatment requires taking 9 drugs over the course of two years. However, the typical dosage of one of the drugs, 6MP, may be good for one child but toxic for another, poisoning their bone marrow and even leading to death. Today, a simple blood test can determine which patient is genetically predisposed to a toxic reaction, the dosage can be adjusted, and another sick child will get a fighting chance to live.

The connection between drug action and genetics – pharmacogenetics – has been part of the medical school curriculum at TAU for over 10 years, notes Dr. David Gurwitz of the Department of Human Molecular Genetics and Biochemistry. A pioneer and educator in the field, he heads the National Laboratory for Genetics of Israeli Populations at TAU. The lab stockpiles DNA samples and cell lines from healthy donors representing the various Jewish and Arab ethnic groups in Israel.

"Little is still known about Middle Eastern populations," says Gurwitz, "so the study of genetic differences in drug response is not only important for Israel, but also for its Arab and Muslim neighbors."

In one current study, Gurwitz and his team, in collaboration with a European consortium funded by the European Commission, are searching for the genetic basis of people's varying reactions to anti-depressants. Less than two-thirds of depression sufferers respond to Prozac and similar selective serotonin reuptake inhibitors (SSRIs), while over one third derive no benefit. It takes 6-8 weeks for clinicians to tell if a patient has responded well to treatment, and meanwhile the suffering can continue and even increase the risk of suicide.

According to the World Health Organization the societal costs of depression, including lost productivity, are among the highest disease-related costs in the developed world. Determining why some patients do not respond to SSRIs on the molecular level could provide valuable information for psychiatrists and help them choose the most suitable anti-depressant for an individual patient right from the start.

"We are working to move the treatment of depression from a trial-and-error approach to a best-fit, personalized regime," says Gurwitz.

Enthuses Rechavi: "These are exciting times to be in genomic medicine. A great wealth of new information is available. I can foresee a time in the very near future when people will be getting much more individualized – and thus effective – treatment for the most severe diseases."

SNAPPING THEM UP: As the genomics field gains momentum and generates ever more data to be crunched, TAU students like **Maya Schushan**, who is just finishing her PhD in computational biology, will be able to find high-level positions anywhere in the world. Maya's studies were entirely funded by TAU's Edmond J. Safra Bioinformatics Program. Her research, under the supervision of Prof. Nir Ben-Tal of the Department of Biochemistry and Molecular Biology, focuses on transmembrane proteins – involved in key cellular processes – and includes collaborations with Stockholm University, the Max Planck Institute and Johns Hopkins University. Maya is also earning her MBA at TAU's Faculty of Management–Leon Recanati Graduate School of Business Administration and "is looking for an interesting and challenging role in the life sciences industry."

> The Jewish-Christian Encounter program addresses early Christianity and Judaism, not as parallel religions, but with a fully integrative approach that reflects their time rather than our own."
>
> *– Justin David Strong, MTS Jewish Studies, Harvard Divinity School*

TAU International

The Jewish-Christian interrelationship from 2,000 years ago was explored in one of the many unique new international study programs

Whether you call it the Land of Israel or the Holy Land, Israel is dotted with historical sites that have deep significance for both Jews and Christians. The nexus between both Jewish and Christian interpretations of those sites was the focus of a one-of-a-kind program offered last summer by TAU's Chaim Rosenberg School of Jewish Studies. Held as a prelude to the launching of the School's new International MA in Jewish Studies, which joins four other new international master's programs this year, the **Jewish-Christian Encounters in the First Century CE** summer school brought together mostly Christian students from the US, Singapore, the Czech Republic, the Netherlands and the UK, most of them advanced students at Ivy League univer-

sities and leading theological schools. The program featured Hebrew lessons, an introduction to the foundational rabbinic texts and their interaction with early Christian texts and a course on key theological themes in the Talmud, as well as visits to archaeological sites.

"TAU International" is a new framework for TAU's growing offerings for overseas students. Alongside the diverse international programs already being run, TAU is offering five new programs this year and three more for 2012-13, including two full bachelor degrees. Maureen Meyer is Director of TAU International and Prof. Neil Gandal, Academic Director.

International MA in Jewish Studies

This interdisciplinary program provides students with knowledge on Jewish culture, civilization and history through a wide range of periods. Topics include biblical theology and exegisis, the history of the Hebrew language, comparative study of rabbinic and Christian texts, readings in the Talmud, Jewish mysticism and magic and modern Jewish philosophy and *Kabala*. An advanced summer school in rabbinic literature is planned for 2012.

International MA in Archaeology and the History of the Land of the Bible

Taught by some of the biggest names in the field of biblical archaeology, this program offers a unique window into the Land of Israel's perplexing and complex past, while introducing students to issues of theory and methodology, and giving them fieldwork experience in the most important excavations conducted in Israel by TAU scholars. The program provides the most up-to-date scientific context for archaeological, historical and biblical studies. Program head is Prof. Oded Lipschits.

> "Now, I finally have the chance to study biblical archaeology in the land where it all happened and not just in class!"
>
> **George Mavronanos**, 22, Greece

International MA in Environmental Studies

Drawing on the Porter School for Environmental Studies' standing as one of Israel's leading centers for environmental teaching and research, the program imparts multidisciplinary geographical, social and political perspectives on environmental challenges that are affecting countries the world over, such as water policy, marine conservation, and trans-boundary environmental issues. Head of the Program is Prof. Yehuda (Hudi) Benayahu, former Head of the Porter School.

> "I came here because Israel is a top clean tech destination and this was the best place for me to study. Singapore and Israel are both small countries with water problems. I would like to be involved in collaboration between the two countries in this field."
>
> **Sharon Teo**, 27, Singapore, aims to join a venture fund dealing with clean tech in emerging markets

International Program in Emergency & Disaster Management (EMPH)

Some 22 professionals from around the world are currently enrolled in the new International Master's Program in Emergency & Disaster Management (EMPH) offered by the Sackler School of Medicine. A master's degree in public health, the program is imparting Israel's unique insight on emergency management – gained over decades of firsthand experience of security crises. Head of the Program is Prof. Kobi Peleg.

> I define myself as a humanitarian architect. I want to learn tools that will enable me to rebuild human habitats following major disasters."
>
> **Cristina Fernandes**, 32, Portugal, worked for a Portuguese company as a design architect in Budapest

International MA in Political Science in Action: Leadership, Communication and Elections

Aimed at professionals seeking careers in politics, public policy and the media, this program addresses the challenges posed by the political leadership in a global communications age. The program includes study trips and meetings with politicians, leading media personalities and elections specialists. The program is co-headed by Prof. Michal Shamir and Dr. Amal Jamal, both of the Gordon Faculty of Social Sciences.

> This is the only program in the English-speaking world that really suited me. I love the tours to conflict flash points – they show us the reality on the ground and how to communicate that reality.
>
> **Aramis Kincino Hernandez**, 27, Mexico, communications specialist in the office of former Mexican President Carlos Salinas de Gortari

International Programs Opening Next Year, 2012-13

For the first time, TAU will be launching full undergraduate degree programs for students from around the world:

BA in Liberal Arts

The program will provide students with a strong multidisciplinary liberal arts education while empowering them to succeed in an increasingly diverse, complex and fast-changing world. The program will offer specializations in Middle Eastern studies, philosophy, literature, Israel and Jewish studies, digital culture, or psychology and psychoanalysis. Head of the Program is Dr. Milette Shamir of the Entin Faculty of Humanities.

BSc in Electrical and Electronics Engineering

The four-year program will be offered by TAU's Fleischman Faculty of Engineering, ranked among the top 100 engineering schools in the world. Drawing on the faculty's strong ties with the high-tech industry, the 70 students enrolled each year will be placed in internships at the Israeli branches of the world's top international high-tech companies. Head of the Program is Prof. Anthony Weiss of the Fleischman Faculty of Engineering.

International MA in Migration Studies

The only one of its kind in Israel and one of a few worldwide, the program was designed to respond to the growing importance of issues relating to global migration through a multidisciplinary lens. Offered by the Gordon Faculty of Social Sciences, the program will train students for careers in public policy, international affairs, politics, research, academia and non-profit organizations. Heads of the Program are outgoing Dean of Social Sciences Noah Lewin-Epstein and Prof. Moshe Semyonov.

Grooming Scientists
Who Still Wear Braces

Meeting with President Shimon Peres face-to-face was a **momentous occasion** for 72 high-school kids in a TAU-led science education program

How do you mold great scientists of the future – scientists who will help place Israel at the forefront of global technological innovation? One way is to give gifted teenagers a solid grounding in scientific know-how, thinking and methodology, say the creators of a unique science teaching program pioneered at TAU's Dov Lautman Unit for Science Oriented Youth, Constantiner School of Education.

The program – President's Initiative for Israel's Future Scientists and Inventors – is the brainchild of President Shimon Peres as part of his efforts to encourage science education in Israel. TAU was given the chance to pilot the program and serve as a model for other universities.

Now in its third year, the intensive four-year program takes in highly gifted 8th graders on a competitive basis. The youngsters apply by themselves or are recommended by their teachers. Finalists are selected according to their scores in a written test and their performance in a summer science "boot camp."

For the first two years, participants take university-level courses for ten hours a week in mathematics, physics and chemistry, followed by exams in these subjects for which they are credited by the relevant departments. The pupils also take part in an intensive three-week study program taught by visiting scientists in the fields of bioinformatics, evolution, astronomy and neuroscience. For the final two years they are integrated into laboratories where they conduct independent research under academic supervision, as well attend various TAU courses.

> "It's incredible to think that kids in the 9th grade are studying Newtonian mechanics and calculus at the university level. I can't imagine myself today if I hadn't taken part in the program.
>
> *– Ben Shenhar, 17, new immigrant*

Academic Director of the program, Dr. Uri Nevo of the Fleischman Faculty of Engineering, a recent recruit to TAU from the US National Institutes of Health and a TAU graduate, says: "We don't expect the youngsters to discover the quantum basis for superconductivity at high temperature! But what they're learning and experiencing here is the real way science is performed."

The program is headed by Prof. Shimon Yankielowicz of the Raymond and Beverly Sackler School of Physics and Astronomy, a former TAU Rector and the academic chairman of TAU's Youth University, and coordinated by Shira Shofty, Head of the Dov Lautman Unit for Science Oriented Youth.

The program was implemented with the financial support of TAU Governor Gil Shwed, founder and CEO of Check Point Software Inc., and Chairman of the Executive Council of TAU's Youth University, with additional funding and organizational aid from the Sacta-Rashi Foundation and TAU Governor and Honorary Doctor Sami Sagol.

Cultural Immersion

The Marc Rich Honors Program in the Humanities and the Arts is helping rejuvenate undervalued study areas

By Louise Shalev

You need a good grounding in music, history and philosophy to grasp the shift from classical to Romantic music and a strong knowledge of philosophy and literature to conduct a Nietzschian reading of Shay Agnon.It's this type of broad, interdisciplinary exploration that is the hallmark of TAU's Marc Rich Honors Program in the Humanities and Arts, a unique program providing a concentration in both fields of study at the undergraduate level.

The program is a joint initiative of Prof. Shlomo Biderman, former Dean of the Entin Faculty of Humanities, and Prof. Hannah Naveh, Dean of the Katz Faculty of Arts. Now entering its fifth year of operation, the program was designed to redress the declining status of the arts and humanities in society in recent years and reestablish these concentrations as crucial fields of relevance to students. The program is in line with – and even preceded – recent recommendations by a special committee of academic representatives and business people to increase the number of excellence programs in the arts and humanities at Israeli institutions of higher education.

"This is a degree program with a mission," states program head Dr. Iris Milner, a Hebrew literature expert. "We take about 20 highly intelligent and motivated students each year and expose them to the widest possible scope of disciplines in arts and humanities, while also nurturing them towards advanced research," says Milner. "Our aim is to develop a cadre of researchers and thinkers in the liberal arts."

Value system

The program's initiators also see it as a way of contributing to *tikkun olam* in Israel. "By reinstating the value placed upon humanities and arts we are ultimately bringing about positive and profound change in the Israeli value system," says Dean of Arts Prof. Hannah Naveh.

These lofty ideals are in line with the aspirations of program graduate Reuel Shualy, 30. Reuel took the program out of a desire to make a real change in Israeli society, particularly in the field of education. Reuel, a combat helicopter pilot who fought in the Second Lebanon War, believes that a broad knowledge of culture is essential to understanding humankind. He hopes this understanding will guide him toward a meaningful leadership position in society, perhaps as a school principal.

Reuel grew up in the southern Negev town of Mitzpe Ramon, one of ten siblings in a secular family. His parents, ex-kibbutzniks, moved there out of ideological reasons to settle the Negev. He attended high school in Sde Boker at a school specializing in environmental and field studies, but also developed a love of reading and writing poetry at an early age.

Like other students in the program, Reuel took two study clusters from each faculty, for a total of four: cinema, theater, philosophy and literature. "All four are separate languages that speak to one another," he says. "Knowing Nietzsche helps me understand the concept of tragedy in the theater, for example. In the end, all art speaks about life. Cinema does it through the screen; theater, on stage; and philosophy speaks about humans through literature and writing."

High or low art?

"I don't believe in high art or low art," says Reuel. "There is complex art.

From left: Hen Roznek, Reuel Shualy and Toam Semel

I prefer complex art which reflects the wider realities and talks about universal issues away from everyday matters."

Among the first crop of 24 students to graduate last year was Hen Roznek, 26, who is now incorporating the interdisciplinary knowledge she gained in the program into master's studies at the Department of Geography and Human Environment. For her study clusters in the BA program, Hen combined history and psychoanalysis together with cinema and general arts studies. In the army she served as a cultural correspondent for the popular IDF radio station, and thus launched a career in journalism at an early stage. It was this interest in culture that tipped the scales in favor of the Rich Program, says Hen.

Hen took courses in a wide range of subjects including bible, architecture, Buddhism and feminism, among others, but history was always dominant for her, she says. She wrote three seminar papers on cinema in the First World War. "I needed a strong background in history and cinema to be able to give an historical perspective," she says.

For Hen the added value of the program was belonging to a special group within the university. "Students in the program stick together, study together and attend enrichment activities together, including museum visits, opera, meetings with intellectuals and artists, and architectural tours," she says.

Cultural connections

While Hen pushes on with her career as a journalist, program graduate Toam Semel, 24, feels she gained from the program's abundant possibilities. Hailing from a family of art curators, Toam believes that the place of culture in our lives is of paramount importance. "Everything boils down to culture eventually," she says. "Even when it comes to friendships, most of the time we connect to people because of their artistic preferences. From these connections we see how art reflects life."

Toam believes that the program – which for her involved studying philosophy, psychoanalysis and linguistics together with cinema and music – enables students to keep processing ideas. "You can keep growing and experimenting with new ideas and areas. It's not, say, psychology, where you learn a fixed profession," she says.

> "All students in Israel should pursue liberal arts degrees before proceeding on to professional degrees.

From film to bible

Or Cohen, 28, a program graduate, studied in the film track at high school and wanted to pursue film studies at university. He was attracted to the program because it offered him wider choices. By his second year, he began drifting away from film toward Bible and Hebrew studies. "I began reading the bible auto-didactically during the army and connecting to Jewish history," he says. "Maybe I was looking for my roots, for the basics."

Or believes that all students in Israel should pursue liberal arts degrees before proceeding on to professional degrees. "Before you professionalize you have to have the basics in order to think critically."

Reuel says that the Rich Program allows students to choose from so many departments. "I have done courses in East Asian studies, philosophy, theater, art, film, history and in my third year I started to connect eastern philosophy with Ancient Near East studies. One of the questions that concerned me was how to apply Michael Foucault's theory of sexuality to the hero in the ancient Mesopotamian Epic of Gilgamesh."

If all this seems like a supermarket of ideas Dr. Milner stresses that the program is highly structured and provides close guidance to the students. "We want them to experiment, but we don't want them to get lost," she says. "We accompany them closely and make sure they choose and concentrate in the right fields for them."

The program is funded by the Marc Rich Foundation for Education, Culture and Welfare, a Swiss foundation based in Lucerne, with offices in Tel Aviv and Switzerland. The foundation supports a wide range of initiatives in Israel and internationally. Its founder, Marc Rich, a major TAU benefactor, received a TAU honorary doctorate in 2009 in recognition of his extensive philanthropic activities. The Marc Rich Foundation also supports doctoral fellowships at TAU. The Managing Director of the Foundation is Avner Azulay.

Thinking Outside the Box about Addiction

TAU scientists are researching new **medications and therapies** for the treatment of addictive drugs

By Ilana Teitelbaum

The war on drugs makes headlines, but it's the victims of addiction who are caught in the crossfire, facing a grueling road to recovery for which there are few effective treatments. And in cases of prescription drugs such as Oxycodone or Ritalin, even patients in a clinical setting can fall prey to addiction.

At TAU's **Dr. Miriam and Sheldon G. Adelson Center for the Biology of Addictive Diseases**, scientists are analyzing – practically molecule by molecule – the biological processes of addiction. They are advancing new and unexpected solutions and finding hidden properties to addictive drugs that may offer treatments for various degenerative diseases.

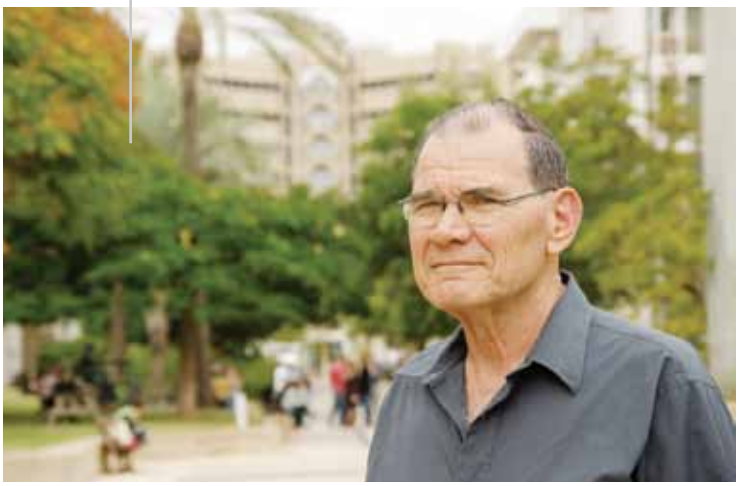
Comprising researchers from a variety of disciplines, including neurobiology and psychology, the center is part of the Sackler Faculty of Medicine and is the first of its kind in Israel.

Taking the pain out of morphine withdrawal

The capacity of morphine to treat debilitating pain comes with a serious downside: it is a highly addictive drug. Withdrawal produces intense pain, diarrhea and other symptoms, all of which make recovery from addiction extremely traumatic for patients.

Until now there has been no treatment that could completely and permanently alleviate the withdrawal symptoms from morphine addiction. Prof. Yosef Sarne, a researcher at the Adelson Center who is investigating the properties of morphine, discovered that a miniscule dose of morphine – less than one thousandth of a normal dose – causes the same severe pain and diarrhea that occur during withdrawal from morphine. Prof. Sarne determined that the blood of patients undergoing withdrawal contains these same miniscule doses of morphine. Because the drug takes time to leave the body entirely, it may be these tiny quantities of the drug that cause the debilitating withdrawal symptoms.

Armed with this knowledge, Prof. Sarne is now exploring the possibility of treating morphine withdrawal by using naloxone, which prevents the binding of morphine to opiate receptors in the brain and thereby neutralizes the effects of the drug. In patients undergoing withdrawal, high doses of naloxone may prevent the painful side effects caused by small quantities of residual morphine in the bloodstream, and ease the road from withdrawal to recovery.

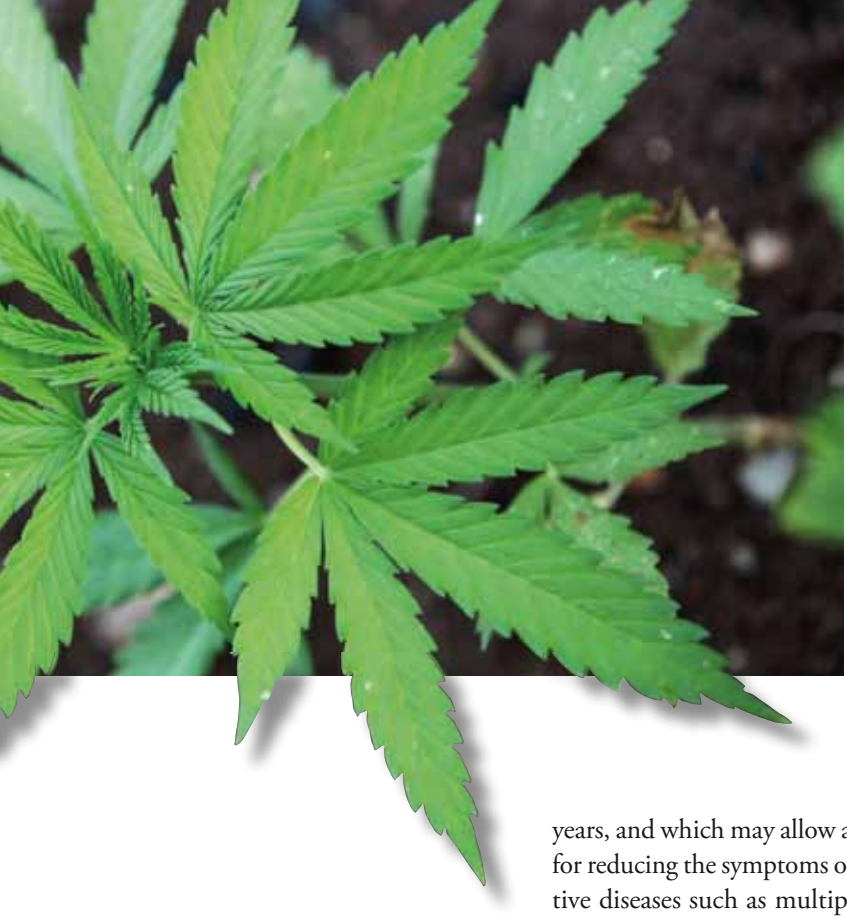


Prof. Zvi Vogel, Director of the Adelson Center

Developing a non-addictive pain killer

Researchers around the world are constantly in search of analgesic drugs that will treat pain as effectively as morphine, but without the addiction and side effects that make morphine so problematic.

Currently it is known that a small dose of morphine combined with antidepressant drugs can amplify the efficacy of the morphine. Based on this principle,



Prof. Chaim Pick is testing the effects of anti-depressant drugs in combination with methadone, a synthetic narcotic that behaves in a manner similar to morphine and heroin. Pick has discovered that the methadone-based formula may potentially work as well as morphine for the treatment of chronic pain—and possibly even better.

Treating neurodegenerative diseases and injury with marijuana

Marijuana has long been known to relieve pain and nausea, but the medical benefits may in fact be much more significant. Researchers at the Adelson Center are finding major medical properties in marijuana that could affect the way neurodegenerative diseases and brain injuries are treated.

Isolating the components of marijuana and studying each individually can lead to significant medical advances, explains Prof. Zvi Vogel, the Director of the center. One of these components is cannabidiol (CBD), which Prof. Vogel has been investigating for the past three years, and which may allow a treatment for reducing the symptoms of degenerative diseases such as multiple sclerosis and Parkinson's.

When microglial cells – the immune cells of the nervous system – are activated, their function is to attack pathogens that have entered their area. But when the microglia are activated for too long, chronic inflammation can result, which accompanies various neurodegenerative diseases. In the course of his research, Prof. Vogel has proven that CBD can reduce this inflammation, thereby potentially alleviating some of the crippling symptoms of these diseases.

Meanwhile, Prof. Sarne has produced research indicating that administering a very low dose of tetrahydrocannabinol (the major psychoactive component of marijuana) – about one-thousandth of the amount of a single cigarette – to the victim of a brain trauma within the first 24 hours can help minimize the injury. The technique enlists the brain's own self-protective mechanism to keep damage from spreading.

Connection between Ritalin and cocaine

Ritalin is routinely prescribed for children with attention deficit hyperactivity disorder (ADHD). Yet the mechanism by which Ritalin works to calm children with ADHD, and its long-term effects on the brain, are still unknown to researchers. What is known is that the drug elicits dependence and has the potential for abuse by long-term users.

Prof. Moshe Rehavi, incumbent of the Adelson Chair in the Biology of Addictive Diseases, is researching the novel cellular and molecular modes of action of Ritalin and the relevance of neurobiological mechanisms that have been identified to the prevention of addictive behavior. Since Ritalin and cocaine are in the same drug class – they are both psycho-stimulant drugs – treatment for Ritalin addiction and withdrawal may extend to cocaine addiction and withdrawal, notes Rehavi. Like cocaine, Ritalin increases the release of the neurotransmitter dopamine and inhibits its reuptake in the brain, thereby stimulating motivation and energy.

"Students in every university are taking Ritalin, without being diagnosed with ADHD, just to be more focused and have more energy," Rehavi explains. "This is a bad thing, because in the long-term, high doses of Ritalin may lead to addiction."

Yet in children with ADHD, Ritalin has the opposite effect: instead of increasing their energy level, Ritalin calms them down. Rehavi describes this paradox as an "enigma" for which there is currently no known explanation.

In studying the long-term effects of Ritalin on the brain, Rehavi aims to uncover the mystery and help patients cope with the challenges of withdrawal from the drug. "Rather than just treating the severe side effects of withdrawal as is currently done today, our goal is to treat the entire process."

The Dr. Miriam and Sheldon G. Adelson Center for the Biology of Addictive Diseases was founded by addiction researcher and clinician Dr. Miriam Adelson and her husband, Sheldon G. Adelson, both TAU honorary doctors. Dr. Adelson earned her MD at TAU's Sackler School of Medicine.

Beyond the Realm of Impossibility

Some say that the Israeli-Palestinian conflict is as much about psychology as it is about territory. What are the most intractable psychological issues at play?

Mutual recognition of each other's national rights and collective identities. This is fundamental. It is a profound psychological process, as it challenges core beliefs in our historical narratives. For Israelis, it requires conceding part of what we consider our biblical homeland. It is dividing Jerusalem. And for the Palestinians, it's relinquishing their claim to the majority of what they consider their homeland and the Right of Return. These are deeply painful internalizations for both sides, without which we cannot talk about peace and reconciliation.

Surely this leads us to a dead-end?

Not necessarily. Despite the present stalemate in negotiations, both sides *have* made tremendous progress in overcoming this obstacle to peace. A majority of Israelis accept the establishment of an independent Palestinian state – an unimaginable scenario a couple of decades ago. And a majority of Palestinians accept the Green Line as the basis for their own state. This is also a revolution in their collective psyche. We are finally moving beyond the negation of each other's existence. However, a complete lack of trust between the two sides remains a major barrier.

What about acknowledging each other's pain?

Israelis and Palestinians engage in "competitive victimhood," denying each other's suffering because they think that if they were to recognize their mutual pain, they will forfeit their legitimate national rights. But Israelis can recognize the Palestinian refugees' trauma without this leading to a right of return to Israel proper. And the Palestinians can acknowledge the depth of Jewish historical tragedy without signing away their rights to a homeland. Ours is a *gray* conflict – we're talking about 100 years of bloodshed, during which all sorts of actions were committed by both sides. The blame game needs to end.

Why are Israelis so averse to accepting this proverbial "grayness"?

A key impediment is a phenomenon that social psychologists call "siege mentality." This national feeling of being under siege is not only a result of real experiences, including the Holocaust, but also of extremely powerful agents of socialization that maintain this world view. The speeches of our political leaders, articles in the press, school textbooks – almost every day I find some reference to siege mentality: "We are in a fight for our very existence, the whole world is against us" and the like. This siege mentality is learned, and makes the conflict intractable. It paints any concession, any acknowledgement of wrong-doing, as existentially jeopardizing the future of Israel.

What can be done to instead nurture a "culture of peace" among a new generation of Israelis?

My ten-year old daughter recently brought home a political map of Israel. There was no Green Line, even though Israel hasn't annexed the West Bank. This teaches that all the land belongs to Israel, and nothing to the Palestinians. This is pro-conflict socialization on the most basic of levels. But if education is critical in sustaining the "ethos of conflict," education can also promote peace. This will require changes in school curricula and revision of textbooks amongst other measures – to let go of our maximal aspirations, negation of the other, siege mentality and other negative worldviews.

And what of the Palestinians? What steps do they need to take?

They need to do exactly, absolutely the same as the Israelis. In education, in battling incitement, in recognizing the rights of Israelis to their own state, in ceasing to use violence to achieve their goals. For the Palestinians, I see the biggest psychological challenge being preparing their refugee population to accept that they will not be returning to Israel proper. Their leadership needs to declare this loudly, unequivocally, and in Arabic, so that expectations can be adjusted to reality. President Abbas has visited refugee camps in Lebanon and explicitly said this – an extremely encouraging development.

By Judd Yadid

Despite the impasse in the Israeli-Palestinian peace process, TAU's Prof. Daniel Bar-Tal, **recipient of the 2011 Harold Lasswell Award of the International Society of Political Psychology**, emphatically believes that the two sides can overcome the formidable psychological barriers to reconciliation

How does religion fit into this process of promoting an ethos of reconciliation?

When you are talking on a nationalistic level, you can make compromises, but when we are talking of religion, then only God can solve the problem. There are not enough religious voices that promote peace, rather than sanctify war. This is a major impediment to peacemaking. However, a promising template is the Interreligious Council, established under former US President George W. Bush, which consists of chief rabbis, imams, bishops and so forth. It is tasked with promoting interfaith dialogue and non-violent solutions to conflict. So there *is* a multi-faith channel of communication. This is a powerful basis for a positive role for religion in ending the ethos of conflict that dominates the two peoples.

What foreign models of reconciliation could further this aim of achieving a lasting peace?

There have been real results in countries such as Bosnia and Northern Ireland. South Africa's Truth and Reconciliation Commission is credited with helping the country heal its racial wounds. France and Germany teach common histories, are economically interdependent, and have thousands of town-twinning arrangements. All these countries and societies have undergone reconciliation after protracted, bloody conflicts. So there is hope for us. We can combine applicable elements such as joint projects, publicized meetings between our leaders, civil society collaboration, changes to school curricula, mutual apology, and so on. The possibilities are endless. The last two chapters of my next book focus on this very question; what faces this reconciliation can take.

Finally, how would you answer skeptics who claim none of this is possible – that Israelis and Palestinians are destined to fight each other for eternity?

Hatred is not genetic. It is learned and used to condition each new generation into thinking that no other reality besides conflict is possible. And if we can learn this hatred, we can unlearn it too.

Prof. Daniel Bar-Tal, a TAU faculty member for nearly forty years, is the Branco Weiss Professor of Research in Child Development and Education at the Constantiner School of Education. He completed his undergraduate studies at TAU, and doctorate at the University of Pittsburgh.

The author and editor of over twenty books and two hundred articles, Bar-Tal's latest publication, *Intractable Conflicts: Socio-Psychological Dynamics and Foundations*, will be released by Cambridge University Press in mid-2012.

By Louise Shalev

Clockwise from left:

Original copies of the Nazi newspaper *Der Stürmer*, 1934, 1938

Nazi children's literature, 1935

The game: *"Jews Out!. Go to Palestine!"* (Dresden, Germany, 1936) aimed to round up Jews as quickly as possible for deportation

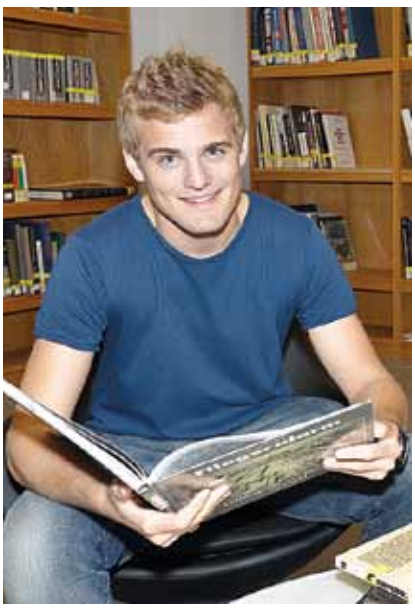
The Poisonous Mushroom by Ernst Hiemer with foreword by the Bishop of Durham, London, England, 1938

A Window onto Anti-

With over 1.5 million documents, TAU's newly reopened **Wiener Collection** is one of the world's largest resources on 20th century Germany, the Third Reich, anti-Semitism and the Holocaust

A documentary filmmaker used it to trace his grandparents' mysterious links to their past in Germany. A former Israeli Supreme Court Justice used it for her seminal work on the *Protocols of the Elders of Zion*. A young German volunteer used it to connect to his country's history and Jewish past. The common resource they drew upon was TAU's Wiener Collection, which reopened to the public after extensive renovations.

The continually growing collection comprises some 100,000 books, 1 million indexed clippings, unpublished



Marius Bischoff, 20, a volunteer from Cologne, Germany

"I've always been interested in Judaism and Israel. I'm fascinated by the diaries from the Lodz Ghetto and the Der Stürmer newspapers in the Collection. They bring me closer to what really happened.

Semitism

memoirs and testimonies, 40,000 documents on the Nuremberg Trials, multiple editions of the *Protocols of the Elders of Zion* and 2,700 original magazines.

Established by German-Jewish scholar Dr. Alfred Wiener in 1933 to expose the horrors of German anti-Semitism, the collection was transferred to London in 1939 for safekeeping and served as a major resource for the British Ministry of Information and the Allied Governments during WWII. Its materials also played a vital role in the charges of war criminals at the Nuremberg trials. TAU obtained the collection in 1980 with the help of the late TAU donor Fred Lessing, fulfilling Dr. Wiener's wish to have it housed in Israel.

The collection is directed by Tamar Sagi and is part of the Sourasky Central Library, headed by Na'ama Scheftelowitz.

Above is a selection of just a few of the tools of hatred and incitement that make up the collection.

The renovations to the Wiener Library building were partially supported by the Beracha Foundation, established in 1971 by Josephine and Caroline Gruss to provide philanthropic aid to Israel. The building, known commonly as the Wiener Library, has been renamed the Joseph and Caroline Gruss Library of Special Collections.

Tracing the Past

Documentary film maker **Arnon Goldfinger**, pictured, a TAU lecturer in film and a TAU graduate, made use of the Wiener Collection for his prize-winning documentary, *HaDira* (*The Flat*). The film traces Goldfinger's efforts to reconstruct his grandparents' past in Germany from newspapers and documents he found in their apartment after his grandmother's death. Among the surprising items stuffed in the apartment were issues of the Nazi newspaper *Der Angriff* (*The Attack*). "One of the things I was forced to deal with in making the movie was the question of the importance of knowing your family's past. Undoubtedly the discoveries I made with the help of the materials in the Wiener Collection illuminated the complex path I was following with the exposure of my family's charged and unclear past,"

Still shot from *The Flat*

On the Frontier of 3D

Advanced 3D technology and its real-world applications stand to revolutionize everything from security to surgery – and TAU's new faculty recruit Dr. Alex Bronstein is leading the way

A woman in Shanghai surfs the channels on her TV with successive twirls of her fingers, doing away with cumbersome remote controls. A man in Miami adjusts the room temperature by waving his left hand, dims the lights with his right, and locks his apartment by drawing a quick 'L' in the air. In Mumbai, a surgeon presents the victim of a facially-disfiguring attack with an anatomically accurate 3D virtual mirror of how she will look after surgery, and in San Francisco, a paraplegic plays virtual soccer, his 3D avatar scoring goals with masterful overhead scissor kicks.

It's not science fiction, but reality-in-the-making – the brave new world that the technological innovations of Dr. Alex Bronstein of TAU's Fleischman Faculty of Engineering are helping to usher in.

Bronstein's technology, a complex amalgam of mathematics, computer science and engineering, allows imaging of non-rigid shapes to create geometric profiles of movable animate objects. This enables the identification or "reading" of the 3D object despite variations in its form and position, such as a person waving or jumping.

Myriad applications

At just 22, Bronstein, along with his identical twin brother Michael, developed a pioneering 3D facial recognition modality that enables highly-accurate identification of and differentiation between people – and the astounding ability to tell the brothers apart. Licensed to an Israeli start-up in 2010, this technology has major ramifications for security – such as tracking terrorists and enabling the use of 'biometric locks' - in which our faces, no matter what gestural variables, serve as infallible PIN codes and signatures.

Using the same technology, 3D recognition could open the door to a world of multifaceted natural human-machine interfaces – for instance, the use of specific facial gestures and body movements to control computers, appliances and the like, without the need for keyboards, buttons and other soon-to-be-passé physical instruments.

Another bold advance is the development of a 'virtual mirror' that generates anatomically precise 3D post-surgery images – a major innovation given the fact that current visual prediction in cosmetic and restorative surgery is confined to 2D. Bronstein and his collaborators' technology could also fundamentally change the way surgical operations are performed in other areas, such as neurosurgery, where surgical planning and brain imaging will be elevated to new heights of precision.

Bronstein is also collaborating with a major American automobile company to utilize his technology to make more versatile and thus productive assembly lines. And, with an array of additional applications – including virtual dressing rooms and computational archaeology – his innovations are playing a formidable role in the shaping of a new, 3D era.

Tumor Blaster

A team of TAU researchers are developing a new method of destroying cancerous tumors that could ensure permanent tumor removal and immunity to the cancer's return. Based on tumor ablation, a process through which the tumor is destroyed from inside the body, researchers Prof. Itzhak Kelson, of the Raymond and Beverly Sackler School of Physics and Astronomy, and Prof. Yona Keisari of the Sackler Faculty of Medicine, have developed a radioactive wire the size of a pin, which, when inserted into a solid tumor, releases lethal radioactive atoms that irradiate the tumor with alpha particles.

The radioactive wire developed by the team circumvents the drawbacks of traditional gamma or beta radiation. Although alpha radiation is more lethal to the tumor cells, its range is too short to be an effective treatment, explains Prof. Kelson. The wire developed by the team skirts the drawbacks of alpha radiation by implanting radioactive ions directly into the tumor. The wire is coated with atoms that emit not just alpha particles, but also daughter atoms which are themselves alpha emitters. These atoms diffuse inside the tumor, spreading further and further before disintegrating. Keisari likens the process to a cluster bomb – "instead of detonating at one point, the atoms continually disperse and emit alpha particles at increasing distances." Not only are the cancer cells destroyed but in most cases the body also develops immunity against the return of the cancer.

The technology has been licensed by Ramot at Tel Aviv University Ltd., TAU's technology transfer company, to Althera Medical Ltd. The treatment, called DaRT – "Diffusing Alpha-Emitter's Radiation Therapy," is being commercialized by Althera Medical Ltd. in Tel Aviv and New York and will be tested in clinical trials at the TAU-affiliated Rabin Medical Center.

The Future is Freemium

In an internet age where the widespread online availability of free content has reduced consumers' willingness to pay, a new business model – 'Freemium' – has emerged, in which basic access to content is provided for free while additional, premium services are offered for a fee. In response to this changing climate, a recent study conducted by Dr. Gal Oestreicher-Singer and doctoral student Lior Zalmanson of the Faculty of Management—Leon Recanati Graduate School of Business Administration has found that a key means for converting users from 'free to fee' lies in incorporating a 'community' into content websites, where 'Freemium' users are active contributors, not passive consumers, of content.

In one of a series of interdisciplinary e-commerce research projects spearheaded by a major agreement between Google and Tel Aviv University, Oestreicher-Singer and Zalmanson analyzed Last.fm, an online radio and social networking site that uses the Freemium model. Consumers who participate in user talkback and the like demonstrate a higher propensity to upgrade to premium in order to use extra features compared to users who do not. By suggesting that potential fee-paying subscribers of content websites are not necessarily the most avid content consumers, but rather the most active participants in the website's online community, the study stands to improve the adaptability and thus profitability of business models for online content providers in a rapidly changing digital era.

Plastic rather than metallic auto-parts will reduce car fuel consumption.

How to Make "Good" Plastics

Conventional wisdom holds that plastics should be biodegradable to lessen pollution and safeguard the planet. Now, a TAU solution for producing a stronger version of a non-biodegradable plastic – polypropylene – could end up being just as environmentally-friendly.

Drawing on the principles of green chemistry – a field that advocates more efficient use of energy and the production of less hazardous waste – Prof. Moshe Kol, incumbent of the Bruno Landesberg Chair in Green Chemistry of the Raymond and Beverly Sackler Faculty of Exact Sciences, is developing new versions of one of the world's most common plastics.

Polypropylene, characterized by its strength and durability, is used in an array of applications including textiles and packaging – for example, in creating air-tight containers for food preservation. To date, none of the biodegradable alternatives that have been developed can replicate polypropylene's resilience – presenting chemists with the challenge of making it as "green" as possible.

In response, Prof. Kol, together with his team of researchers, has succeeded in developing new catalysts for the polypropylene manufacturing process, resulting in the production of the strongest version of it created to date. This breakthrough has major ramifications for future applications of polypropylene, particularly in the manufacturing of cars. One-tenth the weight of steel, polypropylene in its improved form could replace metallic auto-parts, resulting in cars that weigh less and thus consume less fuel.

Therefore, while not biodegradable, this new and improved polypropylene stands to save immense amounts of energy – particularly in an age where car ownership in countries such as China and India is soaring – redefining what it means for a material to be considered "green."

A Driving Force for Better Diagnosis

Imagine a tiny camera that can swim through the body like a tadpole, providing close-up images of hidden problems in the digestive tract. If this seems like science fiction, it's now closer to reality in the laboratory of Dr. Gabor Kosa, a mechanical engineer at TAU's Fleischman Faculty of Engineering and a new faculty recruit from ETH Zurich, Switzerland.

Kosa has developed a swimming mechanism for a tiny "capsule endoscope" which travels through the digestive tract taking pictures of difficult-to-see tumors or wounds. Traditional endoscopes – small cameras or optic fibers that are attached to flexible tubing designed to investigate the interior of the body – can be dangerously invasive. Capsule endoscopes have already been developed for use in the small intestine, but whereas they travel randomly, snapping pictures every half a second, Kosa's new "wireless" capsule uses the magnetic field of magnetic resonance imaging (MRI) as a driving force to enable the capsule to "swim" in a more precise and deliberate path, directed by a physician.

"The ability to drive the capsule will not only lead to better diagnoses, but patients will experience a less invasive procedure in a fraction of the time endoscopy takes today," says Kosa.

The technology, which was reported in *Biomedical Microdevices*, was developed in collaboration with Peter Jakab of the Brigham and Women's Hospital in Boston, affiliated with Harvard Medical School.

The swimming tail that propels the capsule endoscope

City of Frankfurt Honors Buchmann

Vice Chairman of the TAU Board of Governors and major TAU benefactor Josef Buchmann was presented with a Badge of Honor of Frankfurt by the Lord Mayor of the City of Frankfurt Petra Roth, a TAU honorary doctor. TAU President Joseph Klafter especially flew in to give the main speech at the ceremony. Here are excerpts:

From left: TAU President Joseph Klafter with Bareket and Dr. (h.c.) Josef Buchmann

"Josef Buchmann has played a vital role over three decades in building up Tel Aviv University, in fortifying the German-Israeli relationship, and in strengthening the State of Israel.

Josef's involvement with Tel Aviv University began in 1980, when he initiated the establishment of the Frankfurt Chair for Visiting Professors. Very soon afterwards, he endowed the Josef Buchmann Fellowship Fund jointly at Tel Aviv University and the Johann Wolfgang Goethe University.

It was the first bi-national doctoral fund at Tel Aviv University and it was – and still remains – the largest fund of its kind, having given over 300 fellowships to PhD students in Tel Aviv and Frankfurt.

Josef's next project at Tel Aviv University was endowing the law school in the memory of his parents, Eliezer and Haya Sara Buchmann, who perished in the Holocaust. The Buchmann Faculty has evolved into the country's most influential law school, internationally recognized for its high quality research, practical training, and pursuit of social justice. Just this year we received Buchmann funding for a new legal clinic for Holocaust survivor rights.

The fellowships, the law school – one could understand if Josef had stopped there. But he had a bolder vision, his largest yet for Tel Aviv University.

He proposed to join three great loves – the Israel Philharmonic Orchestra, Zubin Mehta, and Tel Aviv University – into one, groundbreaking project.

And thus the Buchmann-Mehta School of Music was born. Founded in 2004, the school is now Israel's leading institution in the field. Its activities are carried out in full partnership with the Israel Philharmonic and its honorary president and guiding personality is Maestro Zubin Mehta.

Four years ago, the school's orchestra played a special memorial concert for the United Nations General Assembly on International Holocaust Remembrance Day, which coincided with the date Auschwitz was liberated. Ninety young students, many of whom were grandchildren of Holocaust survivors, performed in a concert entirely sponsored by Josef, himself a Holocaust survivor.

Buchmann is also funding an international scholarship program that brings outstanding foreign students to the Buchmann-Mehta School.

There is another side of Josef that is not connected to the University that I would like to talk about, the side that is always ready to help.

He has personally welcomed new immigrants from Russia coming to Israel and made sure they received hot meals. He has enabled 250 Israeli children to receive a traditional Jewish education, together with hot lunches, at the Buchmann Educational Campus. He has donated medical equipment to save the lives of Israeli soldiers. He has established the Buchmann Ward at the Sourasky Medical Center and the Buchmann Gynecology and Maternity Center at Tel Hashomer in Israel; and the Buchmann Children's Hospital in Frankfurt.

He has also never forgotten his native city of Lodz, Poland,

where he has provided hot meals for elderly Jews, financed the restoration of 6,000 Jewish graves, and partnered in the Lodz Ghetto Memorial at the train station.

In 2009, on the 65th anniversary of the liquidation of the Lodz Ghetto, he was decorated with the "Commanders Cross with Star" of the Polish Order of Merit – the highest honor bestowed in Poland – by President Lech Kaczyński. During the same visit, he unveiled a memorial in Survivors Park honoring Poles who saved Jews during the war, which he supported together with the Lodz municipality.

Finally, Josef is a true patriot of Israel. For his exceptional contributions to the State of Israel he was recognized by President Ezer Weizman, Prime Ministers Yitzhak Rabin and Ariel Sharon, and most recently, President Shimon Peres."

President of the Swiss Friends Anette Bollag-Rothschild with pupils in the Sulamot program

SULAMOT PROGRAM

Music for Social Change

Based on the idea that perhaps children at-risk don't need therapy in the traditional sense, but rather a corrective, super-positive experience, TAU's Sulamot ("Scales") Program – Music for Social Change is demonstrating successfully that music is a valuable tool for improving the emotional happiness of children at-risk. The program is an initiative of TAU's Buchmann-Mehta School of Music, the Israel Philharmonic Orchestra KeyNote program and TAU's Bob Shapell School of Social Work and is funded by Keren Hayesod of Switzerland, the Israel Philharmonic Orchestra Foundation and the American Friends of the Israel Philharmonic. It is directed by TAU faculty member Sarah Elbaz.

> "We enable underprivileged children to undergo real change through music.

Anette Bollag-Rothschild, Chairman of the steering committee and the President of the Swiss Friends of TAU, says, "We will all benefit from a program preventing antisocial behavior that provides meaningful leisure time and after-school activity. With Sulamot we have exactly what we need to enable underprivileged children to undergo real change through music and to offer them a door into society."

Modeled on El Sistema in Venezuela, the program, now in its second year, set up wind and string orchestras for children and youth. The program was launched last year at three outlying areas in Israel: Neve Michael in Pardes Hanna, Migdal Ohr in Migdal Ha'Emek and at the Kadima Youth Home in Yavneh. Following the success of the first year, the program has been extended this year to include children in Beersheba, Ethiopian children in Rehovot and children in south Tel Aviv. Many of the teachers are students of TAU's special master's program for strings and winds at the Buchmann-Mehta School of Music, sponsored by the Swiss friends of TAU.

Prof. Tomer Lev, a member of the steering committee from the Buchmann-Mehta School of Music, stresses the significance of these programs for the students who teach the children – both as an important experience in teaching and also as a model for social change through music.

Prof. Tammie Ronen, Head of the Renata Adler Memorial Research Center for Child Welfare and Protection at TAU's Bob Shapell School of Social Work and incoming Social Sciences Dean, says that studies the center has conducted on the program since its inception show that it has brought about significant change in the children's happiness and ability to express emotion. Her study also indicates that the program also brought the level of subjective wellbeing of the children at-risk to that of regular children.

"Our dream is that every Israeli child should have the right to play an instrument," says Mrs. Bollag-Rothschild.

David J. Azrieli Hall Dedicated

The beautiful entrance to TAU's Genia Schreiber University Art Gallery was dedicated by TAU President Joseph Klafter and Dean of Arts Hannah Naveh in honor of David J. Azrieli, TAU Honorary Doctor and founder of TAU's Azrieli School of Architecture. The plaque was unveiled after a special luncheon held at the Marcelle Gordon University Club marking 20 years of support by the Azrieli Foundation for TAU. Prof. Klafter praised Mr. Azrieli as a "man of foresight and great generosity of spirit, who single-handedly created a school that is an exciting, thriving center of excellence with an international reputation." Prof. Klafter noted that when the school needed more space to launch a master's program in architecture, Mr. Azrieli stepped up, "getting so personally involved that he even designed the two beautiful floors that we are building today."

David Azrieli

ZEEV SEGAL HALL

A Model of Justice and Fairness

The late Prof. Zeev Segal

The Zeev Segal Hall at the Gordon Faculty of Social Sciences was dedicated in tribute to the late Prof. Zeev Segal by his wife Lili and son Hadar, one year after his untimely passing. Prof. Segal was a longtime member of the Department of Public Policy and Director of the Executive Master's in Public Policy, as well as one of Israel's most prominent jurists and legal commentators. Segal's regular columns in the *Ha'aretz* newspaper provided important insights into the most pressing legal matters in Israeli everyday life, influencing both the public and legal debate in his fields of expertise, which included constitutional and administrative law, ethics, media law and freedom of expression.

"This hall is the most fitting place to commemorate Zeev's prolific activities at the University," said Lili Segal. "It is here that he trained generations of students, giving his workshops in welfare policy, freedom of speech and construction and housing policy and more, bringing students into contact with Israel's finest minds including government ministers, Members of Knesset, judges, and professors and media figures.

In a video message conveyed to the meeting by President of Israel Shimon Peres, Peres hailed Prof. Segal as one of the foremost protectors of democracy in Israel. "Democracy has revealed itself lately as a fundamental entity in ensuring our existence here, no less than security," said Peres. "To defend democracy one needs soul, deep breadth of thought, a conscience, sharp powers of observation and persuasion and the ability to persist and not give up. This is what Zeev was all about and this is his legacy."

Lili Segal and son Hadar

In a special issue of the TAU journal *Kesher* in Zeev's memory, Former Head of the Supreme Court Aharon Barak wrote, "Zeev responded to daily events and offered legal solutions based upon fundamental values of human rights, the rule of law, the separation of powers and the independence of the courts. His death is a great loss to the field of Israeli jurisprudence."

Speakers at the dedication for the lecture hall included Vice Prime Minister and Minister for Regional Development and the Development of the Negev and the Galilee, Silvan Shalom, a TAU graduate; Supreme Court Justice Elyakim Rubinstein; and *Ha'aretz* editor Aluf Benn, also a TAU graduate, as well as top university officials and leading members of Israel's legal community including former Heads of the Supreme Court of Justice Aharon Barak and Meir Shamgar.

From England with Love

TAU's inaugural 2011 **UK Legacy Mission** brought together a diverse group of British Jews for a deeply moving visit to TAU and Israel

Group photo at Israel's Haifa naval base

TAU President Joseph Klafter unveiling the UK Legacy Mission Wall of Honor

Last summer, TAU introduced a new concept for widening its UK circle of supporters. The Tel Aviv University Trust – Great Britain invited members of the UK's Jewish community to leave a bequest to TAU, and in return be hosted for an unforgettable trip to Israel. The 22 participants of the inaugural Legacy Mission, who ranged from judges to artists, psychoanalysts to mathematicians, businessmen and human rights pioneers, were led across the country by Geoffrey Simmonds – the driving force behind the initiative – and enjoyed exclusive access to Israel's innermost cultural, academic and political sanctums.

Immersed in the vibrant tapestry of TAU and Israel, the participants met leading researchers, enjoyed performances by renowned orchestras and dance ensembles, toured the Western Wall tunnels, and made a pilgrimage to the desert final resting place of Israel's founding father, David Ben-Gurion. And while all but one of the participants had visited Israel before, it was the first time any of them had met the Mayor of Tel Aviv and a senior government minister, had a private afternoon tea with the British Ambassador, and been given access to Israeli naval and air force bases.

From the action-packed itinerary came a cascade of emotional experiences, and a profound re-connection with Israel through support for Tel Aviv University. In a poignant ceremony at TAU's Cymbalista Jewish Heritage Center on

campus, participants were recognized for their contributions to the university, and invited to share their thoughts on what TAU and Israel means to them. Their remarks encapsulated the spectrum of their passions – of having the "privilege to be able to contribute toward the growth of a dynamic university;" "the opportunity to meet some of TAU's most inspirational, pioneering people;" and "the honor of paying tribute to hard-working parents who couldn't receive a higher education yet made sure that their children did."

Ayelet Tal, Director of TAU's Development and Public Affairs Division, thanked the group for "becoming part of the Tel Aviv University family," and for forging a new era of closer ties between the university and British Jews. In recognition, a wall of honor was unveiled by TAU President Joseph Klafter, fittingly located opposite Beit Hatefutsot – the Museum of the Jewish People. Hailing the participants' generosity of spirit, Prof. Klafter paid tribute to their contribution to advancing the university's research endeavors, and securing for it a thriving future.

The next UK Legacy Mission will take place in early June, 2012.

Jack Glenton receiving his certificate of appreciation

"An amazing and uplifting experience. If you think you know Israel, this mission will make you think again."

– Ray & Anthony Zenios

Director of TAU's Development and Public Affairs Division Ayelet Tal presenting Dr. Michael Brown with his certificate of appreciation

Smuggling Jews to Freedom

At the Cymbalista ceremony, Marilyn Sheinman of London dedicated her bequest to her parents, Alec and Malka Kesselman, who helped smuggle Jews out of Nazi Europe to pre-state Israel.

"It was the last few years of World War Two. Millions of Jews were being shot, starved and gassed in Nazi-ruled Europe. Knowing that my late father had an interest in photography, one of his brothers-in-law involved in 'Aliyah Bet' – the smuggling of Jews into Mandatory Palestine – asked for his help to create fake passports. Using hard-to-come-by film, my father photographed real UK passports and developed the film using chemicals provided by a pharmacist friend. He then cut out potatoes and, with special ink, created forged British Home Office stamps for the passport negatives. Rolled up in waxed paper and put into talcum powder tins, the forged material was sown into the lining of old fashioned brown suitcases by my mother, an expert seamstress, together with money, weapons, clothes and other items. The suitcases, carrying their 'cargo of freedom,' were then secretly transported by my uncle to Marseilles in France, and the forged passports were eventually distributed to Jews entering pre-state Israel. It gives me a great sense of pride that my family was instrumental in saving many lives of immigrants this way, and I was delighted to be able to dedicate my Living Legacy to Tel Aviv University, where there may well be grandchildren of those very immigrants studying today."

Marilyn Sheinman addressing the audience at the Cymbalista ceremony

australia

NEW SOUTH WALES

Yeast and You

David Dinte, President of the Australian Friends of Tel Aviv University in New South Wales, and his wife, Judy, hosted a cocktail function in their home attended by Meir Buber, Senior Resource Executive at TAU. Prof. Shoshana Bar-Nun of the TAU Department of Biochemistry and Molecular Biology spoke on "Wine, Beer, Bread, Diet and Longevity: Meet the Yeast!" Among those attending were new Friends members and local community leaders.

VICTORIA

Film evening

The Australian Friends in Victoria recently hosted a successful film night, an exclusive preview showing of the *Ides of March* at the Jam Factory Complex in South Yarra. The event was attended by TAU's Meir Buber and drew 350 people.

Cocktail evening

During Mr. Buber's visit, an elegant cocktail evening for 60 was held at the home of Victoria Chapter President Victor Wayne and his wife, Karen. Both Mr. Buber and Dr. Wayne spoke at the event.

From left: John Banky and Victor and Karen Wayne

Erratum:

The evening with Prof. Colin Price of TAU's Department of Geophysics and Planetary Sciences that was held in Melbourne in July 2011 was generously hosted by Rosie and Dov Potaznik.

canada

TORONTO

First Overseas School Alumni meeting

During TAU President Joseph Klafter's recent visit to Canada, he was guest of honor at the Toronto Friends Association's first TAU Overseas Students Program (OSP) Alumni event, attended by 60 OSP graduates, their parents and guests. Representing the parents, Julie Sue Schwartz spoke about the wonderful experience her son was having at TAU, while OSP graduate Michelle Boles spoke on behalf of the students and alumni. In a separate event, Prof. Klafter met with donors and Jewish community leaders at a private dinner hosted by Martin and Joan Peskin.

OSP graduates at the Toronto event

Prof. Klafter and philanthropist and TAU supporter Leslie Dan

Forging ties

Prof. Klafter met with the Ontario Minister of Health and Longtime Care, Deb Matthews, to discuss neuroscience; and with Minister of Training, Colleges and Universities Glen Murray; as well as with the presidents of the University of Toronto and Ryerson University to discuss future academic cooperation agreements with TAU.

Minister Glen Murray with Prof. Klafter

MONTREAL

President's visit

Prof. Klafter received a warm welcome in Montreal, where he met with National President of the Canadian Friends Judge Barbara Seal and members of the Board of the Canadian Friends, as well as with TAU Governor Marcel Adams and his family; attended a dinner reception in his honor hosted by longtime TAU supporters Tina and Max Smart in their home; and met with top officials of McGill University, headed by Heather Monroe-Blum, Principal and Vice-Chancellor, with whom he discussed future collaborations between the two institutions. During his visit, Prof. Klafter and Meir Buber, Senior Resource Executive at TAU also met with TAU supporters.

From left: Sylvan, Marcel and Margaret Adams

austria

Through the Austrian Gate

Austrian Federal Minister for Science and Research Prof. Dr. Karlheinz Töchterle visited the campus as head of a delegation that met with leading TAU researchers collaborating with Austria. Mr. Michael Rendi, Ambassador of Austria to Israel, and Dr. Ariel Muzicant, President of the Austrian Jewish Community, joined the delegation. After the presentations, they walked through the Austrian Gate of the University and visited the laboratory of Prof. Isaac Witz at the Department of Cell Research and Immunology.

Minister Karlheinz Töchterle with TAU President Joseph Klafter

germany

Friends mark 40th birthday

The German Friends celebrated their 40th anniversary at a special event held at the Giersch Museum in Frankfurt hosted by Senator E. h. Prof. Carlo Giersch, founder of the Carlo and Karin Giersch Chair for Research in Modern Painting at TAU's Katz Faculty of Arts. Attended by donors, supporters and executive committee members, the event featured a talk by Prof. Dr. Heinz Riesenhuber, Member of Parliament and a former Federal Minister for Research and Technology, on the importance of scientific cooperation between Germany and Israel, as well as a musical performance by the Figural Choir. Concluding remarks were given by Friends President Dr. h.c. Ernst Gerhardt.

From left: Prof. Dr. Heinz Riesenhuber, Dr. h. c. Ernst Gerhardt and Senator Prof. Carlo Giersch

Honoring Dr. Ernst Gerhardt

Carrying on a 25 year-long tradition, the German Friends turned out in full to celebrate the 90th birthday of their President, Dr. h.c. Ernst Gerhardt, founder of the Ernst Gerhardt Scholarship Fund at TAU. This year, the occasion was celebrated together with his accomplishments as an active citizen of Frankfurt at the Frankfurt Hilton Hotel, sponsored by German savings bank Frankfurter Sparkasse and TAU. Frankfurt Mayor Petra Roth, a TAU honorary doctor, and Prime Minister Volker Bouffier attended, and Herbert Hans Grüntker, Chairman of the Board of Frankfurter Sparkasse, gave greetings. The event was followed by a moving performance by members of the Ensemble of the National Theater of Frankfurt.

france

Hallyday performs Tennessee Williams

Iconic French singer and actor Johnny Hallyday performed in an adaptation of the Tennessee Williams play *Kingdom of Earth* in an evening attended by members and guests of the French Friends. The event was supported by theater director Bernard Murat and his wife, Zana. Mr. Murat will be giving a master class at TAU's Department of Theater Arts this year.

From left: Danielle Schemoul; Catherine Visan; Marc Haddad; Prof. François Heilbronn, President of the French Friends; Yossi Gal, Israeli Ambassador; Jaume Tapies, President of Relais & Chateaux; Chantal Aziza; Lyne Gelrubin; and Georgie Amiel

italy

Rome film screening

A special screening of TAU student films took place as part of the International Rome Film Festival. The event was sponsored by the French Friends of TAU with the support of Emmanuelle Hess Israeilovici and Mirella Haggiag of Rome. Six films by TAU students and graduates competed for prizes judged by a 10-member jury that included Italian directors Ettore Scola and Roberto Faenza, and Oscar-winning costume designer Milena Canonero. The Maria Teresa Venturini Prize was awarded to *Audition* by TAU student Eti Tisco, and the public award sponsored by Elisabeth Descombes of France went to *Second Watch* by TAU graduate Udi Ben-Arie.

argentina

Focus on Economics

For the 16th year running, the Argentinean Friends of TAU held their influential International Economic Symposium in Buenos Aires. Featuring talks by renowned analysts, this year's symposium was a resounding success with an attendance of 1,200 people including diplomats and business leaders.

From left: Enrique Szewach, Consultant, IDB; Dr. Sergio Berensztein, University of Torcuato Di Tella; Dr. Ricardo Arriazu, economic and financial advisor; Dr. Miguel Kiguel, Torcuato Di Tella University and Director of EconViews

TAU President Joseph Klafter gave opening greetings and Governor of the Bank of Israel Prof. Stanley Fischer sent a video message. Following the formal discussions, a dinner was hosted by Argentinean Friends Leon and Paula Arazi at their residence. It was attended by Prof. Klafter; the Argentinean Ambassador to Israel Dr. Carlos Faustino Garcia; Israeli Ambassador Daniel Gazit; Argentinean Friends President Polly Mizrahi de Deutsch; and Senior Resource Executive at TAU Herman Richter, as well Friends and supporters of TAU.

Punta del Este meeting

The annual meeting at Punta del Este was attended this year by 1,800 people and organized by the Argentinean Friends with the help of the Friends associations of Brazil and Uruguay. The theme of this year's meeting was the Arab Spring and its regional and international implications, which was discussed by panelists Prof. Itamar Rabinovich, former TAU President; Dr. Luis Alberto Lacalle Herrera, former President of Uruguay; and TAU Honorary Doctor Dr. Marcos Aguinis, who was presented with a Tel Aviv University Award by the Argentinean Friends. Opening greetings were given by Argentinean Friends President Polly Mizrahi de Deutsch.

During the long weekend, social gatherings were hosted by TAU Friends Miriam and Adolfo Smolarz, Kuky and Sergio Grosskopf and Maria and Raul Mochon from Argentina; and by Enrique and Viviane Manhard of Uruguay. A TAU President's Award was conferred upon TAU benefactor Sergio Grosskopf, presented by Prof. Rabinovich and Polly Mizrahi de Deutsch. The award recognizes Mr. Grosskopf's contribution as a philanthropist, community leader and staunch friend of Israel.

From left: Kuky Grosskopf; Friends President Polly Mizrahi de Deutsch; former TAU President Itamar Rabinovich; and Sergio Grosskopf

TAU Honorary Doctor Dr. Marcos Aguinis

Palestinian state in the making?

Prof. Uzi Rabi, Director of TAU's Moshe Dayan Center for Middle Eastern and African Studies, discussed the scenarios for a Palestinian state at a conference and dinner hosted by the Argentinean Friends. During his visit, he met with ambassadors and diplomats associated with the Commission for the Middle East of the Argentine Council for International Relations (CARI).

brazil

Technology lessons for Brazil

"Creating New High-Tech Industries: The Israeli Experience and Implications for Brazil" was the subject of a seminar co-sponsored by the Brazilian Friends of TAU and the Insper Institute of Education and Research, with which TAU has a cooperation agreement. Keynote speaker was TAU's Prof. Shmuel Ellis of the Faculty of Management—Leon Recanati Graduate School of Business Administration.

Insper Conference

uk

Anniversary garden BBQ

TAU Trust Great Britain Chairman David Levin hosted a BBQ at his home in celebration of the first successful year of the trust's alumni group in the UK. Prior to the event, participants took a guided tour of the Royal Botanic Gardens at Kew.

Israel: Innovation nation

The TAU Trust Great Britain and Stenham hosted a breakfast briefing by Dr. Giora Yaron, Chairman of the TAU Executive Council, on "The Tale of Israeli High-Tech: Past, Present and Future."

From left: TAU Trust trustee Edwin Wulfsohn, Dr. Giora Yaron and TAU Trust Chairman David Levin

usa

NORTH EAST REGION

All that Jazz

To the sweet sounds of jazz, an overflowing crowd of TAU alumni and Friends gathered for a reception at the Peter Lik Gallery in New York's trendy Soho. Ron Prosor, Israel's Ambassador to the UN, briefed guests on Middle East geopolitics and the UN vote on Palestinian statehood. Oren Heiman spoke about this year's successful New York Alumni Scholarship Campaign for underprivileged TAU students and lucky Yosi Ben-Levi won the evening's "silent auction" for a Peter Lik original.

From left: Ambassador Ron Prosor (center) with co-chairs of the New York Alumni Leadership Committee Alon Waks (left) and Kobi Kastiel

The India-Israel partnership

Nearly 100 dignitaries, community leaders and guests enjoyed breakfast and a forum on the robust economic partnership between India and Israel at New York's Regency Hotel. Tarun Das, co-founder and co-chair of TAU's India-Israel Forum, and Prof. Asher Tishler, Dean of TAU's Faculty of Management—Leon Recanati Graduate School of Business Administration, were featured panelists, and the discussion was moderated by Stanley M. Bergman, Chairman and CEO of Henry Schein, Inc., and co-chair of the India-Israel Forum. Among the guests enjoying the intriguing exchanges were Rajaram Sugandh, Consul of Economic & Commerce Affairs to the India Mission in New York, and Ido Aharoni, Consul General of Israel in New York.

From left: Stanley Bergman; Chairman of the TAU Board of Governors Harvey Krueger; Consul General Ido Aharoni; Prof. Asher Tishler; Tarun Das; AFTAU CEO Gail Reiss; and Consul Rajarani Sugandh

TAU Governor Shimon Topor and TAU Governor and member of the AFTAU Board of Directors Nomi Ghez

Entering the academy

At the legendary Harvard Faculty Club in Cambridge, Massachusetts, alumni and Friends were delighted to toast TAU President Joseph Klafter upon his induction into the distinguished American Academy of Arts & Sciences. They celebrated with fine wine, hors d'oeuvres and a live jazz combo. After a welcome from Sackler School of Medicine graduate Dr. Avi Almozlino, the Consul General of Israel to New England Shai Bazak offered a personal appreciation of Prof. Klafter and then briefed guests on current developments in the Middle East.

Director of Alumni Affairs Ayelet Vardi and Consul General Shai Barak

Prof. Israel Shaked, Managing-Director of the Michel-Shaked Group in Boston (left), and TAU President Prof. Joseph Klafter

WESTERN REGION

Out-of-this-world evening

American Friends Dr. Robert and Susanne Reyto hosted 50 alumni and Friends for dessert and an intriguing presentation by Ronna Rubinstein, project coordinator of Space IL, on Space IL's mission to "plant the Israeli flag on the moon." Guests also enjoyed a current affairs briefing by David Siegel, Israeli Consul General in Los Angeles.

From left: Deputy Consul General Gil Artzyeli, AFTAU Director of Alumni Affairs Ayelet Vardi, Consul General David Siegel, Susanne Reyto and Ronna Rubinstein

SOUTHEASTERN REGION

Walk the red carpet

More than 50 TAU alumni and guests gathered for an evening of popcorn, movie snacks and a screening of three award-winning TAU student films in Aventura, Florida. Guests met with Chaim Shacham, incoming Consul General of Israel to Florida/Puerto Rico, and were treated to a lively post-screening question-and-answer session with director and TAU graduate Lior Geller, moderated by Isaac K. Fisher.

Lior Geller and Isaac K. Fisher

israel

Scholarship campaign

A campaign by the Israeli Friends to raise funds for scholarships was launched at the start of 2011 with considerable success. Spearheaded by Amos Shapira, President of the Israeli Friends, and Sigal Adar, Director, the campaign has so far raised funds for 120 scholarships. The funding will go toward the tuition costs of new immigrant students, single-parents and students from outlying areas. The campaign was launched within the framework of a meeting of the **Business-Academic Club** of the Israeli Friends, featuring guest speaker **IDF General Yoav Galant**, who spoke on Mideast security. Mr. Shapira, who himself donated five scholarships in memory of his late father Yitzhak Shapira and late father-in-law Avraham Ovadia, emphasized the important role of the scholarships in enabling young people to gain a higher education and integrate fully into Israeli society.

Pictured, TAU President Joseph Klafter with Israeli Friends President Amos Shapira (center) and Gen. Yoav Galant

Art tour of Jerusalem

One hundred members of the Israeli Friends took part in a fascinating tour of churches and art in Jerusalem organized by the Israeli Friends and led by leading TAU lecturers in the arts. The tour included visits to the Crusader Church of the Resurrection in Abu Gosh and the Church of the Holy Sepulcher in Jerusalem. The tour's proceeds are earmarked for student scholarships in art history.

sweden

Commemorating Raoul Wallenberg

A ceremony marking the 25th anniversary of the establishment of the Raoul Wallenberg Prize in Human Rights and Holocaust Studies by the Swedish Friends of TAU was held at TAU's Cymbalista Heritage Center. Attending were Swedish Friends President Prof. Peter Seideman, the Swedish Ambassador to Israel, Elinor Hammarskjöld, and other diplomatic representatives, as well as guests from Israel and Sweden. The prize, named in honor of the Swedish diplomat who saved thousands of Hungarian Jews during the Holocaust and later disappeared, is awarded annually on the anniversary of Wallenberg's disappearance to a doctoral student specializing in human rights or Holocaust research. This year's winners are Orna Carmel and Yehonatan Alsheh. The 2012 prize, which also marked 100 years since Wallenberg's birth, was co-sponsored by the International Raoul Wallenberg Fund. The ceremony was moderated by Prof. Dina Porat, Head of TAU's Kantor Center for the Study of Contemporary European Jewry and incumbent of the Alfred P. Slaner Chair in Anti-Semitism and Racism.

From left: President of the Swedish Friends Prof. Peter Seideman, Swedish Ambassador Elinor Hammarskjöld and TAU President Joseph Klafter

COOPERATION AGREEMENTS

Astronomy with Harvard

The study of cosmology, galaxy evolution, high-energy phenomena, stars and planetary systems is the focus of the new Raymond and Beverly Sackler Harvard-Tel Aviv Astronomy Initiative, funded by major TAU benefactor Dr. Raymond Sackler. The initiative is a joint collaboration between TAU's Raymond and Beverly Sackler School of Physics and Astronomy and the Institute for Theory and Computation at the Harvard-Smithsonian Center for Astrophysics. The program, which is directed at TAU by Prof. Amiel Sternberg, will support research, exchange between students, post-docs students and faculty, as well as lectures and workshop between Harvard and TAU.

TAU-Cambridge Interfaith Program

TAU and the University of Cambridge have entered into a new collaboration in the field of interreligious studies that will spread knowledge of and critical insight into the three Abrahamic faiths: Judaism, Islam and Christianity.

Under the agreement, two research centers will be established: the Center for Religious and Interreligious Studies at TAU and the Cambridge University Project for Religions in the Humanities. At both centers, a cadre of world-class scholars will study the three monotheistic religions comprehensively and will collaborate with similar Christian, Muslim and Jewish academic initiatives around the world. The two centers will conduct joint conferences, seminars and exchange programs between faculty and students. The initiative's inaugural international conference, entitled "With God on Our Side," will take place in Tel Aviv in late 2012 and will explore the role of religious claims in conflict.

Cancer Research with Vienna

A cooperation agreement for skin cancer research was signed between TAU's Cancer Biology Research Center and the Comprehensive Cancer Center of the Medical University of Vienna. The agreement was signed by Prof. Isaac Witz of TAU and Prof. Christoph Zielinski, Chairman of the Department of Medicine and Coordinator at the Medical University of Vienna, in the presence of Deputy Ambassador of Austria to Israel Hans Almoslechner.

From left: Prof. Isaac Witz, TAU Rector Aron Shai and Prof. Christoph Zielinski

TAU Given Green Thumbs Up

In a milestone for environmentalism at TAU, the university was recently accredited as a "green campus" by the Israeli government, in recognition of its efforts to create a more sustainable institution. The accreditation is awarded to Israeli universities that implement programs in three key areas: academic degrees and courses in environmental studies; heightened resource efficiency through recycling and reduction of electricity and water use; and community-related projects that strengthen environmental awareness. Among the green innovations at TAU are more efficient lighting, the "Nature Campus" educational initiative, stands for the city of Tel Aviv's new bicycle rental system in addition to a comprehensive plan for campus bicycle paths, and the construction of the Porter School of Environmental Studies' state-of-the-art EcoBuilding.

Sundance Festival screening

The film *Barbie Blues*, made on a $800 budget by Adi Kutner of TAU's Department of Film and Television, was screened in the short film category at this year's Sundance Film Festival, Utah. One of 64 short films accepted for screening at the festival out of 7,675, the film revolves around the meeting of a bored suburban teenager with her new neighbor, which turns from an innocent afternoon encounter into a hurtful incident. This is the third time in four years that female filmmakers from TAU have been represented at the prestigious festival. Student films from TAU's Department of Film and Television were screened 467 times in international film festivals during 2010-11, and garnered 48 awards.

Adi Kutner

חמישי בקמפוס
לדעת. לבלות.

Thursday Nights on Campus

TAU launched the new "Thursdays on Campus" weekly happenings, which will run throughout the school year. Every Thursday evening, students and the public can attend – free of charge – lectures, film screenings, musical performances and exhibitions. In between, they can relax at a café or bar, stroll through the farmers market or take a dance lesson.

people

TAU Scholar Appointed Yad Vashem Chief Historian

Holocaust expert Prof. Dina Porat, head of TAU's Kantor Center for the Study of Contemporary European Jewry and incumbent of the Alfred P. Slaner Chair for the Study of Contemporary Anti-Semitism, was named the new Chief Historian of the Yad Vashem Museum in Jerusalem, one of the world's leading institutions dedicated to the study of the Holocaust. Porat, the former Head of the Chaim Rosenberg School of Jewish Studies, said, "Today, the Holocaust is being denied and diminished. Facing the ways that it is used or misused will be my responsibility."

Prof. Dina Porat

prizes

Awarding Social Entrepreneurship

Dr. Adi Koll, creator of one of TAU's flagship community outreach programs – "Access for All" – was presented the Knesset Speaker's Award by Knesset Speaker MK Reuven Rivlin. The program, previously known as the People's University, provides teaching by TAU students to marginalized groups in society, including battered women, ex-convicts and teenage delinquents, giving some 1,000 participants a taste of university life and hope for the future. Koll was cited for "singlehandedly launching the project – unique in the world – and for dedicating herself to improving the lot of weak and helpless groups in society." Supported by the Legacy Heritage Fund and the Matanel Foundation, the program serves as a model for other Israeli universities.

Dr. Adi Koll receives the prize from former Supreme Court Judge Dalia Dorner and Knesset Speaker Reuven Rivlin.

For Argument's Sake

For the second time in three years, a TAU team has won the World Debating Championships in the English as a Second Language Category (ESL), held this year in Manila. Mathematics students and brothers, Omer and Sela Nevo, won the gold for their debating performance on the ethics of scientists studying climate change, beating 3,000 other participating teams and solidifying their win at the European Championships six months ago. Yoni Cohen-Idov, a former winner and the team's trainer, says, "We're showing the world the cultural Israeli who knows how to express himself in an eloquent and determined manner."

From left: TAU President Joseph Klafter congratulates Sela (left) and Omer Nevo.

TAU Post-Docs Lead the Way

An impressive 10 out of 20 Rothschild Fellowships for post-doctoral study abroad were awarded in 2011 to TAU students

Dr. Khitam Muhsen

Specializing in fields ranging from genetics and electrical engineering to epidemiology, psychology and zoology, TAU's Rothschild post-doctoral fellows are exporting Israeli know-how – and gaining new knowledge and skills – at some of the worlds' top academic institutions.

One recipient, TAU PhD graduate Khitam Muhsen, is now a post-doctoral fellow at the Center for Vaccine Development, University of Maryland, Baltimore. Dr. Muhsen is studying the possible negative effects of a common stomach infection on the efficacy of vaccines against diarrheal diseases like cholera in developing countries. Her specific interest is the *Helicobacter pylori* bacterium that infects more than half of the world's population. Directly linked to enteric diseases such as peptic ulcers, gastritis and stomach cancer, infection rates are disproportionately higher in poorer areas due to crowded living conditions and substandard sanitation.

Dr. Muhsen, an Israeli Arab from the town of Furiedis, wrote her doctoral dissertation at the Sackler Faculty of Medicine on the link between infection with *Helicobacter pylori* in early childhood and cognitive impairment of Arab children. "I am determined to make a difference to the health of my community," she says. Her PhD supervisor, Prof. Daniel Cohen, head of TAU's School of Public Health, hailed her success in "providing new knowledge on the negative impact of H. pylori infection on cognitive abilities among Israel Arab children," adding that "these estimates could be further extrapolated to other populations all over the world."

Given the obstacles that Israeli Arabs face in higher education, Dr. Muhsen's achievements are all the more remarkable. Despite comprising over 20% of the general population, Israeli Arabs constitute less than 6% of Israeli graduate students, 3.3% of doctoral candidates, and an even smaller proportion of post-doctoral students. Dr. Muhsen attributes her success to the fierce spirit of independence that she has harbored since childhood, coupled with the unwavering support of her parents and seven siblings.

After finishing her studies in the United States, Dr. Muhsen plans on returning to Israel to continue her research into health characteristics of the Israeli-Arab sector.

community

New Preparatory Program for Disabled Students

A new preparatory program (*mechina*) that targets a specific group of students – those with both learning and physical disabilities – is to open this summer at TAU. The first of its kind in Israel, the program will admit 25 students in its first intake in May. Students will benefit from services such as tailored tutoring and one-on-one counseling so that they can then join the regular preparatory program. Jointly funded by Israel's National Insurance Institute, Welfare and Social Services Ministry and the Council for Higher Education, the program is "designed to make higher education more accessible by providing disabled students with the tools they need to meet the necessary academic requirements," says TAU's Director of Preparatory Programs Ilan Leiba. By offering them this unique program, the program's initiators hope to ensure the students' acceptance into and successful graduation from university, and their long-term integration into the job market. This endeavor marks a major milestone in the University's efforts to make the campus more accessible to students, both physically and academically – and, according to Leiba, is "guided by a philosophy of equal opportunity for all."

Supreme Court Appointment

Prof. Daphne Barak-Erez will be the first woman from academia to hold the appointment and the youngest member currently on the court

Dean of Law Daphne Barak-Erez has been appointed to the highest judicial body in the land. Highly acclaimed and awarded for her work in the field of public law, Prof. Barak-Erez has served as Dean of the Buchmann Faculty of Law since July 2011. She will join the Supreme Court in May 2012.

When she took up her appointment as dean of law, Barak-Erez asserted that academia has a critical role to play in understanding law as a product of society. She explained that a law faculty must aspire to achieve two goals simultaneously – being competitive in the global arena and at the same time being relevant to current challenges faced by the Israeli legal system. According to Barak-Erez, a law school should prepare students to become effective professionals, involved citizens and social leaders.

A home-grown product of Tel Aviv University, Barak-Erez joins four other TAU alumni currently serving on the Supreme Court: Justices Dr. Yoram Danziger, Hanan Melcer, Uzi Vogelman and Esther Hayut.

Barak-Erez completed her LLB and LLM degrees, both summa cum laude at TAU. She then pursued SJD studies at TAU as one of the first recipients of the Colton Family Foundation Scholarship Fund established by TAU supporters Stewart and Judy Colton. She joined the TAU law faculty in 1992, and served in various positions, including as director of the Faculty's Minerva Center for Human Rights, the Cegla Center for Interdisciplinary Research of Law and as Deputy Dean of the Faculty. Prof. Barak-Erez has held the Stewart and Judy Colton Chair for Law and Security since 2006.

A specialist in administrative and constitutional law, comparative law, privatization, legal feminism, and Israeli legal history, Barak-Erez has been a visiting professor at several top institutions including the Universities of Toronto, Columbia Law School and Stanford Law School.

Mark of courage

Throughout her career, Barak-Erez has been committed to advancing social justice and improving public life in Israel. In recognition of her public service in the area of human rights and the rule of law, she was recently awarded the Ometz ("Courage") Prize. Among her other numerous honors are the Heshin and Zeltner Prizes, the Woman of the City Award of the Municipality of Tel Aviv-Jaffa, the Women in Law Award of the Israel Bar Association and the TAU Rector's Prize for Excellence in Teaching (twice).

Barak-Erez has also served on several committees including as a member of the Council for Higher Education and as President of the Israeli Law and Society Association. She is the author of numerous books and articles including *Outlawed Pigs: Law, Religion and Culture in Israel* (2007) and *Administrative Law* (2010).

TAU Appoints Vice President

Prof. Raanan Rein, TAU's former Vice-Rector, the Sourasky Professor of Latin American and Spanish History and the Head of the S. Daniel Abraham Center for International and Regional Studies, was recently appointed Vice President of TAU. The author and editor of numerous books and academic articles, Prof. Rein is a co-editor of the journal *Estudios Interdisciplinarios de América Latina y el Caribe*. Among his other honors, he was awarded the title of Commander in the Order of the Liberator San Martin by the Argentinean government for his contribution to Argentinean culture.

New Vice President for R&D

Prof. Eran Rabani of the Raymond and Beverly Sackler School of Chemistry has been appointed TAU's new Vice President for Research and Development, replacing Prof. Ehud Gazit. A TAU faculty member since 1999, Prof. Rabani has served as Chair of the Department of Chemical Physics and as head of the Sackler Institute for Chemical Physics, and has been a visiting professor at Harvard, Columbia and UC Berkeley. He is regarded as a pioneer in the field of the theory of materials at the nanometer scale, molecular conductivity and many-body quantum dynamics.

New Chairman for Ramot

Dr. Giora Yaron, Chairman of the TAU Executive Council, has been appointed Chairman of Ramot at Tel Aviv University Ltd., the university's technology transfer arm. He has established several start-up companies including PentaCom, P-cube and Qumranet and serves today, among other roles, as founder and chairman of Itamar Medical Ltd., and founder and Board member of Qwilt. Dr. Yaron also serves as a member of the Board of Directors of Amdocs and the advisory boards of Rafael Defense Systems Ltd. and the Israel Ministry of Defense.

EMET Prizes

Prof. Dan Zakay

Prof. Noga Alon

Awarded by the Prime Minister's Office for excellence in academic and professional achievements, 2011 EMET Prizes went to **Professor Emeritus Dan Zakay** of the Department of Psychology, Gershon H. Gordon Faculty of Social Sciences, and to 2008 Israel Prize laureate **Prof. Noga Alon** of the Raymond and Beverly Sackler School of Mathematical Sciences, incumbent of the Florence and Ted Baumritter Chair in Combinatorics and Computer Science.

Prof. Yaron Oz, the incumbent of the Yuval Ne'eman Chair of Physics, has been appointed the Dean of the Raymond and Beverly Sackler Faculty of Exact Sciences. Prof. Oz was Chair of TAU's Raymond and Beverly Sackler School of Physics and Astronomy from 2006 to 2011, and is currently the Vice President of the Israel Physical Society and editor of the *Journal of High Energy Physics*. The recipient of numerous prizes and grants, Prof. Oz has received funding for the establishment of two prestigious Israel Science Foundation Centers of Excellence.

Prof. Hannah Naveh has been reappointed the Dean of the Yolanda and David Katz Faculty of the Arts. During her many years at TAU, Prof. Naveh has headed TAU's General and Interdisciplinary Studies Program in the Humanities and the NCJW Women and Gender Studies Program, and has served as the TAU President's Advisor on the Promotion of Women and Women's Status. Prof. Naveh is a member and a chair of numerous boards and committees, including the Yehoshua Rabinovitz Foundation's Literature Committee and the Bezalel Academy of Arts Board of Governors.

Advocate Keren Raplansky Elad has been appointed TAU's new Legal Adviser. Previously the Legal Adviser of Ashdod Port and Vice Legal Adviser of Israel's Ministry of Finance, Raplansky Elad serves as a voluntary Member of the Tel Aviv District's Disciplinary Court of the Israel Bar Association.

Prof. Moshe Mevarech, the Morris and Manya Leigh Chair for Biophysics and Biotechnology, has been appointed the Dean of the George S. Wise Faculty of Life Sciences. A faculty member since 1980, Prof. Mevarech has twice served as the Chair of the Department of Molecular Microbiology and Biotechnology. In addition to his decades at TAU, Prof. Mevarech has been a visiting researcher at the University of Alberta in Edmonton, Canada, Germany's Max-Planck Institute for Biochemistry in Martinsried and the University of Würzburg, and at Millennium Pharmaceuticals Inc. in Cambridge, Massachusetts.

Prof. Tammie Ronen, the former Head of TAU's Bob Shapell School of Social Work and the current Head of the Renata Adler Memorial Research Center for Child Welfare and Protection, has been appointed the Dean of the Gershon H. Gordon Faculty of Social Sciences. Prof. Ronen's research and practice focus on positive psychology and the role of coping resources of self-control and social support to promote children's subjective well-being.

Prof. Shaul Harel of TAU's Sackler Faculty of Medicine was awarded the 2011 Arnold P. Gold Foundation Humanism in Medicine Award, which honors faculty who exemplify the qualities of a caring mentor in the teaching and advising of medical students. Prof. Harel's remarkable life story was the subject of the film *Children Without a Shadow*, which recounts the experiences of Belgian Jews in hiding during the Holocaust.

Meir Buber was appointed Senior Resource Executive for English-speaking Countries at TAU's Development and Public Affairs Division. Buber's prior roles include Senior Economic Adviser to former Israeli Prime Minister Ariel Sharon, Israel's Trade Commissioner to the USA, Deputy Director General of Israel's Chamber of Commerce and Executive Director for Keren Hayesod in Victoria, Australia.

Herman Richter was appointed Senior Resource Executive for Latin America and Spain at TAU's Development and Public Relations Division. Richter is a director of the Israel-Brazil Chamber of Commerce, and has served as the worldwide treasurer for Havatzelet Hashomer Hatzair, as a fundraiser for the Open University of Israel, and as Keren Hayesod's representative in São Paulo, Brazil.

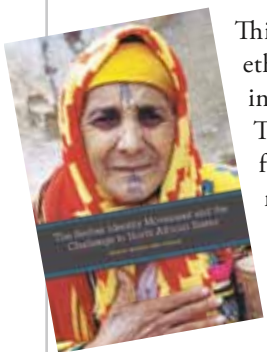
Appointments: • **Prof. Tovi Fenster**, Humanities, Director of the University Institute for Diplomacy and Regional Cooperation • **Prof. Michael Gluzman**, Humanities, Director of the Laura Schwarz-Kipp Center for Hebrew Literature and Culture • **Prof. Yael Hanein**, Engineering, Director of the Marian Gertner Institute for Medical Nanosystems and Co-Director, Tel Aviv University Center for Nanoscience and Nanotechnology • **Prof. Martin Kupiec**, Life Sciences, Director of the Joan and Jaime Constantiner Institute of Molecular Genetics • **Prof. Arber Nadir**, Medicine, Director of the Djerassi-Elias Institute of Oncology • **Dr. Ury Scott**, Humanities, Director of the Stephen Roth Institute for the Study of Contemporary Anti-Semitism and Racism • **Prof. Arieh Solomon**, Medicine, Director of the Albert and Elba Cuenca Institute for Anti-Aging Therapy Research • **Prof. Dov Te'eni**, Management, Academic Director of the Orange Institute for Internet Studies • **Prof. Idit Weiss-Gal**, Social Sciences, Director of the Center for the Advancement of Teaching • **Prof. David Assaf,** Humanities, incumbent of the Sir Isaac Wolfson Chair in Jewish Studies • **Prof. Shoshana Bar-Nun,** Life Sciences, incumbent of the Louise and Nahum Barag Chair in Molecular Genetics of Cancer Biology • **Prof. Yoram Cohen,** Exact Sciences, incumbent of the Joshua Jortner Chair in Chemistry • **Prof. Eddie Dekel**, Social Sciences, incumbent of the Grace and Daniel Ross Professor of Economics • **Prof. Meir Feder**, Management, incumbent of the Chair of Information Theory • **Prof. Moshe Kol**, Exact Sciences, incumbent of the Bruno Landesberg Chair in Green Chemistry • **Prof. Yoel Rephaeli,** Exact Sciences, incumbent of the Jack Adler Chair of Extragalactic Astronomy endowed by P.E.F Israel Endowment Funds • **Prof. Gil Rosenman**, Engineering, incumbent of the Henry and Dinah Krongold Chair of Microelectronics • **Prof. Lev Shemer,** Engineering, incumbent of the Chair of Experimental Fluid Dynamics • **Prof. Dov Te'eni**, Management, incumbent of the Mexico Chair in Management Information Systems • **Prof. Eran Yashiv**, Social Sciences, Chair of the Department of Public Policy

Honors: • 2012 Rothschild Prize in Humanities, **Prof. Margalit Finkelberg**, Humanities • Honorary Doctorate from the University of Jaén in Spain, **Prof. Dany Leviatan**, Exact Sciences • Fyssen Foundation International Prize, **Prof. Amotz Zahavi**, Life Sciences • S. Yizhar Prize, **Prof. Hagit Halperin** and **Dr. Oded Menda-Levy**, Humanities • The Israeli Association for Aquatic Studies' Lifetime Achievement Award, **Prof. Lev Fishelson**, Life Sciences • 2012 Benjamin Franklin Medal in Mechanical Engineering, **Professor Emeritus Zvi Hashin**, Engineering

books

The Berber Identity Movement and the Challenge to North African States

By Bruce Maddy-Weitzman, University of Texas Press (2011)



This book analyzes the rise of the modern ethno-cultural Berber/Amazigh movement in North Africa and the Berber Diaspora. The book illuminates issues such as the formulation of official Islamist and Arab nationalist narratives and policies aimed at subordinating Berbers, and the emergence of a counter-movement agitating for Berber empowerment. Bruce Maddy-Weitzman is Senior Research Fellow at the Moshe Dayan Center for Middle Eastern and African Studies, Entin Faculty of the Humanities.

Demonic Desires: "Yetzer Hara" and the Problem of Evil in Late Antiquity

By Ishay Rosen-Zvi, University of Pennsylvania Press (2011)

The author analyzes 150 appearances of the concept of *yetzer hara*, or evil inclination, in classical rabbinic literature to explore the biblical and post-biblical search for the sources of human sinfulness. In contrast to most academic research that categorizes the term as destructive sexual desire, Rosen-Zvi contends that in late antiquity the *yetzer* represents a general tendency toward evil. Prof. Ishay Rosen-Zvi is Associate Professor of Hebrew Culture at TAU and a Research Fellow at the Shalom Hartman Institute for Advanced Studies.

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Overture
"Finch' han dal vino"
Zachariah Njoroge Karaiithi, baritone
"Batti, batti, o bel Masetto"
Einat Aronstein, soprano
"Là ci darem la mano"
Zachariah Njoroge Karaiithi
& Einat Aronstein

Mozart: Sinfonia Concertante in E-flat Major for Violin and Viola, K. 364
Hagai Shaham, violin
Matan Noussimovitch, viola

Vivaldi: Concerto in G Minor for Two Violoncellos, RV 531
Hillel Zori, cello
Kristina Reiko Cooper, cello

Mozart: Symphony No. 35 in D Major, "Haffner", K. 385

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