



TEL AVIV UNIVERSITY REVIEW

put on
your
nano-goggles

Food Security

Biomedical Entrepreneurship

Muslim Anti-Semitism



Driving Change for an Independent Future 12

TAU scientists are bringing fresh energy to the development of stronger electric car batteries.



Cover story: seeing things the nano way 6

Researchers at TAU's interdisciplinary Center for Nanoscience and Nanotechnology explain what nano is and why it matters.

Local Boy Makes Good 19



Former minister and Labor Party leader Ophir Pines-Paz

has joined Tel Aviv University as the founding director of a new Institute for Local Government.



2013 Issue

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sections

innovations 2

alumni 24

leadership 26

initiatives 28

digest 33

newsmakers 37

books 40

friends globally

City of Opportunity 28

TAU's largest building project ever, Student City, will be opening for the 2013-14 academic year.



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Dear Friends,

In this issue, we're delighted to present some of the riches of Tel Aviv University activity in nanoscience, brain, environment, Mediterranean studies, Jewish studies and other areas of academic prominence. Behind our strength in these interdisciplinary fields lies a concerted effort to **bring together gifted thinkers** from across the sciences and humanities and enable them to nourish and inspire each other.

Our continued emphasis on creating the best conditions for research and teaching attracted a record **70 new faculty members** to our ranks in 2012-13, bringing the total number of recruits over the last three years to 150 – a remarkable gain in Israeli terms.

Together with research and teaching, a major part of any leading university's raison d'être is responsiveness. Tel Aviv University has always been responsive to Israel's national priorities as well as to top global concerns. These factors contributed to our winning partnerships in 7 out of 11 **Israeli Centers of Research Excellence**, known as I-COREs, set up by the government this year. Tel Aviv University professors will lead new centers in the areas of mass trauma, plant adaptation to environmental threats, and particle physics in the quantum universe. Four more TAU groups will serve as partners in the fields of Jewish culture, cell structural biology, planetary evolution and physical approaches to living systems.

Responsiveness also means a commitment to greater society. **Fifteen recently-elected Knesset members** are affiliated with Tel Aviv University as either graduates or lecturers, a reflection of the values of caring and leadership that are stressed at TAU along with academic excellence.

These developments testify to TAU's status as a global center of innovation and social impact – a place where the transformative power of knowledge inspires all that we do.

Yours sincerely,

Professor Joseph Klaffer
President, Tel Aviv University

Communicating for a Healthy Nation



Telling people to eat better and exercise is one thing, but getting them to do it – and to then encourage their own friends and neighbors to join them – is another thing altogether.

In a first-of-its-kind project, Prof. Nurit Guttman, Chair of the Department of Communication at the Gershon H. Gordon Faculty of Social Sciences, has been selected to lead a \$2 million initiative to research, develop

and implement a community-based communications strategy for promoting fitness in Israel. The grant was awarded by the Ministries of Health, Education, and Culture and Sport for their newly launched “National Program for Promoting an Active and Healthy Lifestyle.”

What’s different about the communications model Guttman’s team will be developing is that the messaging

won’t come from on high. Rather, the researchers will take a participatory social marketing approach, engaging community – and especially testing the use of digital and social media – to promote changes in lifestyle-related behaviors.

“The idea is to get everyone participating, whether they’re tweeting calorie-counting tips to each other over their cell phones or joining exercise



More Review, Better Results

What can air force pilots teach surgeons? Apparently quite a bit when it comes to reviewing and improving performance. Post-operative debriefings can significantly reduce the duration time of surgery and reduce errors, a TAU study has found.

In the study, Prof. Peter Bamberger of TAU’s Department of Organizational Behavior at the Faculty of Management—Leon Recanati Graduate School of Business Administration, together with colleagues at Haifa University and the Technion, examined data gathered from 250 physicians and nurses on surgical teams at one of Israel’s largest medical centers. The teams had been trained in post-procedural reviews by Israeli Air Force pilots.

The findings showed that the more a team’s members were involved in post-operative reviews, the better their performance during surgery. In complex surgery, the duration of operations was reduced by 20 minutes, while in simple surgery, fewer errors occurred. “This enhanced team performance is explained by the beneficial effects of members’ post-procedure review experience,” says Prof. Bamberger, adding that the study might have important managerial implications for organizations that rely on teamwork.

groups via Facebook,” Prof. Guttman explains about the model. “We’ll be encouraging information sharing and discussion between residents in 15 communities on both the local and national levels.

The project will enhance understanding of the life-style issues that most concern people, the barriers to modifying daily habits, and the ways that citizens can use resources within their communities to adopt healthier practices.

“The ministries didn’t just want jingles for this campaign,” says Guttman. “They wanted each phase of the communications campaign to be backed up – and followed up – by research.”

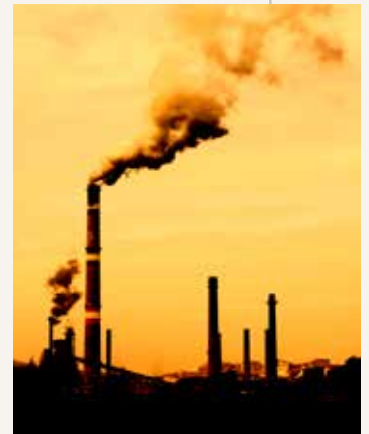
Guttman’s team at the Department of Communication is collaborating on the interdisciplinary study with colleagues at the School of Public Health, Sackler Faculty of Medicine, and from other universities.

Bangalore Is Dirtier, Houston Cleaner

What can three NASA satellites tell you that a politician can’t? According to a novel and highly accurate technique for measuring air quality from outer space, developed by the team of **Prof. Pinhas Alpert**, Head of the Porter School of Environmental Studies, the satellite data reveal exactly which cities in the world are cleaning up their air quality and which are not. The research team tracked air pollution trends over 189 megacities – urban centers with a population greater than 2 million – over an eight-year period. Their study is the first of its kind to provide standardized global testing of pollution levels.

Results from the three different satellites clearly show increased air contamination in the megacities of the Middle East, India, North China and Central Africa. Alpert attributes worsening air quality to population, traffic, industrialization and energy use increases.

Some cities in Europe, the United States and South-East Asia reduced their air pollution levels between 2002 and 2010. Alpert hopes that these greener cities will serve as an example to the rest of the world, inspiring those who have yet to clean up their communities to push for environmental reforms.



Neurotweeting

How is your brain like Twitter? Doctoral student Yoav Ben Simon of the Sagol School of Neuroscience explains that, like the social network formed by Twitter users, our brain’s billions of neurons are tweeting their messages back and forth, leading to the movement of our muscles or the retrieval of a forgotten name from the stores of our memory.

The majority of tweets sent by our nerve cells are idle chatter and useless gossip. Yet, unlike Twitter, the brain is able to sift through the trillions of messages and rank the importance of each one. This sorting of messages allows the brain to perform complicated, real-time tasks that are



crucial for survival as well as to form and store new memories.

Ben Simon is currently investigating the role that a certain protein plays in this ranking system. He hopes his research will provide a better understanding of the brain’s vast communication networks.



Forget Venus and Mars



Thousands of popular and scientific publications have been written about the biological differences between the “female” and “male” brain, with some suggesting that the female brain is hardwired for empathy and the male brain for building systems. However, after poring through the literature, Prof. Daphna Joel of the School of Psychological Sciences and the Sagol

School of Neuroscience has concluded that this simplified model is incorrect.

“Brains are neither ‘male’ nor ‘female,’” she says, “but rather ‘intersex.’”

Prof. Joel argues that human brains are a mosaic of male and female characteristics that continually change throughout life as they interact with the environment. Stress, parental treatment and prenatal exposure to drugs are but a few of the many factors that create, reverse, abolish or exaggerate sex differences in brain characteristics. “Since human brains are a mixture of both male and female features,” elabo-

rates Joel, “the claim that women are not wired to excel in male dominated fields and vice versa is unfounded. Biological arguments should not be used to justify gender inequality.”

Even though brains cannot be strictly divided into male and female categories, Joel has discovered that sex plays an important role in psychopathology, or the development of a mental or behavioral disorder. For example, experiments in Joel’s laboratory indicate that young males treated with Prozac could be more prone to develop depression and anxiety later in life than young females. Joel is continually working to uncover the complex interactions between sex and the environment and create a more nuanced understanding of the human brain.

To Bee or Not to Bee

About 1,500 wild bee species thrive in Israel, a global bee hotspot. They play an essential role in pollinating the country’s native plants as well as its agricultural crops. But wild bees could soon be edged out by commercial honey bees, says TAU doctoral student Ariella Gotlieb of the Department of Zoology, George S. Wise Faculty of Life Sciences.

“Farmers place the commercial honey bee hives too close to nature reserves,” explains Gotlieb, a former Ein



Gedi park ranger who spends four months each year closely inspecting pollination patterns in the Arava desert. “The honey bees, which are larger and stronger than most native species, forage in the natural habitat and consume most of the pollen and nectar from the plants before the local species even start their day. This could greatly affect the wild bees’ reproductive success, and might cause a drop in their populations.”

Moreover, notes Gotlieb, some of the indigenous flora may suffer declines as well because the invading honey bees are not fit to successfully pollinate them. In her position as head of the Biodiversity Section of the Ministry of Environmental Protection, she hopes to introduce a number of measures to conserve the wild bees and the Arava ecosystem.

Preying for the Birds

Guilad Friedemann, a TAU doctoral student of zoology, is striving to ensure the survival of two of Israel's most elusive raptor species: the long-legged buzzard and the short-toed eagle. Their numbers are threatened by environmental change, lack of food, nest robbing, and a host of man-made perils.

Friedemann has devoted both his master's and doctoral degrees to studying the ecological and biological processes that affect the raptors – otherwise known as birds of prey – and

the dangers they face. His research has already yielded some important data on the birds' migration patterns, and he hopes his findings will help preserve Israel's raptor populations and open habitats. "Raptors are fabulous creatures – beautiful, majestic and perfect

hunting machines," he says. "I dream of preventing their systematic destruction so that our children will be able to enjoy seeing them like we do today."

Friedemann's research is funded by the Smaller-Winnikow Scholarship Fund for Environmental Research.



Guilad with a short-toed eagle tagged in 2012



During the Middle Ages thousands of Jews, Christians and Samaritans living under Muslim rule were intensively engaged in translating their sacred scriptures into Arabic, which had become their language as well. These translations, the way they were influenced by the Qur'an and their use by Muslims in their discussions with members of the other Abrahamic religions are the focus of a 1.6 million euro grant from the Deutsche Forschungsgemeinschaft

Found in Translation: the Bible in Arabic

awarded to two professors from TAU's Entin Faculty of Humanities. The project, *Biblia Arabica: the Bible in Arabic among Jews, Christians and Muslims*, is being conducted by Prof. Camilla Adang of the Department of Arabic and Islamic Studies and Prof. Meira Polliack of the Department of Hebrew Culture Studies – Bible Program, both of TAU, together with Prof. Sabine Schmidtke of Freie Universität Berlin. The study charts and analyzes the numerous Arabic-language manuscripts found in monasteries throughout the Middle East and libraries across the globe, and will involve five international teams of PhD students and postdoctoral researchers in Israel and Germany.



Post-doc Michal Levy-Sakin (right) and master's students Dima Torchinsky (left) and Yael Gluckman belong to the nano-biophotonics group headed by Dr. Yuval Eberstein, Raymond and Beverly Sackler School of Chemistry. Levy-Sakin, who has completed her PhD in biotechnology at TAU, brings advanced biological and microscopy skills to the development of a new, light-based tool for identifying genetic variability on the level of one individual cell – something that is not yet possible today.

seeing things the nano

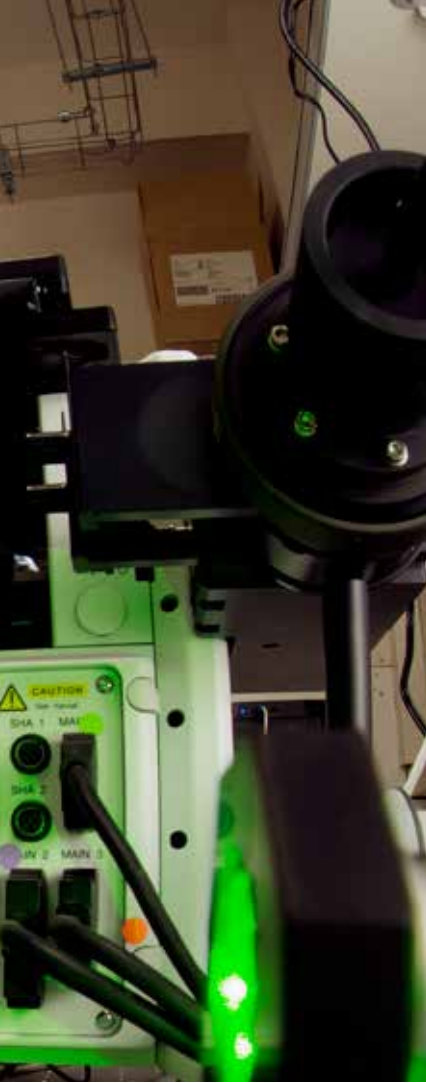
More than an academic field of study, nano is a wondrous way of looking at the world.

Picture a slab of white Carrara marble. A sculptor might admire its soft glow, and a builder, its crystalline shine. A nanoscientist, though, would want to inspect the rock at its most elemental level – individual atoms of calcite. Would it still be luminous at that small scale? If so, could that shiny quality be useful for various products

in our daily lives?

“Usually we work with the materials that nature gave us,” explains Prof. Yael Hanein, an engineer and the Director of Tel Aviv University’s Center for Nanoscience and Nanotechnology. “Humankind has invested thousands of years into discovering their properties and characteristics.

“But our nanoscientists are not satisfied with the obvious and known,” she says.



Nanoscience is one of the fastest-growing fields today. It's also the closest thing to magic you can find in a lab: Using nature's basic building blocks – atoms and molecules – scientists can create new materials, drugs and devices never seen before, nor even imagined.

way

Prof. Hanein's engineering colleague and a core member of the Nano Center, Prof. Koby Scheuer, elaborates on this idea.

"If we look at materials that we can see and touch – such as wood, gold or water – we can say with confidence how they'll behave without knowing what each individual wood, gold or water molecule is up to," he says.

"That's because on the normal scale, or even the micro scale, we've deter-

mined the properties of materials based on the collective behavior of the millions and billions of atoms or molecules that make them up.

"However, on the nano scale of just a few individual atoms or molecules, the properties of these same materials are often different. And by combining the atoms in ways that nature does not, you can engineer 'smart' materials and even mini-machines with the traits and functionality you want, such as being malleable, emitting light, conducting electricity, or degrading harmlessly in the body.

"Nano lets me change and control the basic properties of materials around me in infinite ways," Scheuer enthuses.

The possibilities indeed seem endless. TAU's nanoscientists across the faculties of medicine, life sciences, exact sciences and engineering are working together on dozens of future technologies. These include cancer-detecting sensors, drug delivery robots, non-polluting plastics, photosynthesis-based renewable energy, and neural chips to restore sight, among many others.

It takes perseverance. The scale is

ultra-small. Nanoscientists work with metals, gases and biological particles at the scale of 1-100 nanometers, with each nanometer measuring one-billionth of a meter. Painstakingly they observe and manipulate constellations of atoms that can only be seen using the most advanced, high-resolution microscopes and imaging devices available, such as at the Robert Goldberg Laboratory for Focused Ion Beam Nanostructuring and other advanced labs.

And when the equipment they need does not exist, they build it themselves. For example, in his Experimental Biophysics Laboratory at the Nano Center, Dr. Roy Beck-Barkai conceived and built one of the world's most sophisticated X-ray systems for studying biological molecules.

Prof. Yael Hanein's eyes light up when she describes her hard-working colleagues. "The beautiful thing about nano at Tel Aviv University is the passion and commitment of our scientists. They're working for a better world and they're going to go that extra mile to get there."

By Rava Eleasari Gelbetz



Birth of a center

Nano as a distinct academic field in Israel emerged in the year 2000, when a group of TAU professors led by physicists Eshel Ben-Jacob and Guy Deutscher, chemist Ori Cheshnovsky, engineer Yosi Shacham-Diamand and biotechnologist Amihay Freeman established the country's first interdisciplinary center dedicated to nanoscale research and teaching.

The University and its supporters quickly rallied to the nano cause, investing millions of dollars into the new Center for Nanoscience and Nanotechnology in the form of advanced laboratories, institutes and programs.

In 2002, recognizing the scientific, economic and defense potential of nano, the government set up the Israel National Nanotechnology Initiative (INNI) with initial funding of \$150 million to promote development of the field at Israel's universities.

Of Israel's new nano focus President Shimon Peres famously said, "We can use smallness to become great."

Land of milk and nano

Indeed, Israeli industry is poised to take a hefty slice of the worldwide nano-pie, which is expected to reach \$27 billion in nanotechnology sales by the end of 2013 and between \$1.5 to \$3 trillion by 2015.

JUST HOW SMALL IS IT?

- One nanometer is one-billionth of a meter.
- One nanometer is 1/80,000 of a single human hair.
- One nanometer is about as long as your fingernail grows in one second.
- A single flu virus is about 100 nanometers wide.
- A single red blood cell is about 10,000 nanometers wide.
- 25 million nanometers equal one inch.

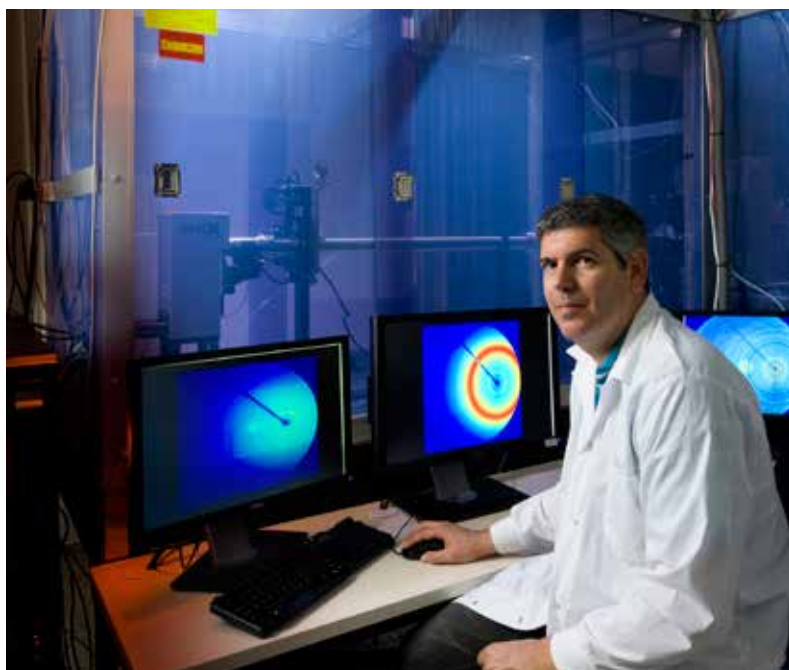
In the last 10 years, the number of companies in Israel with nanotechnology-based products has increased from 14 to 119. A sizeable number of them, including Teva, Elbit and Rafael, commission research and laboratory

Peer, a TAU graduate who was recruited from Harvard in 2008 to serve as a core member of the Nano Center along with Professors Hanein and Scheuer and Dr. Beck-Barkai.

Peer is currently leading a consorti-



Dr. Roy Beck-Barkai has built one of the world's most sophisticated X-ray systems for studying how aberrations in protein structure correlate to disorders such as ALS, Parkinson's and diabetes.



services at the TAU Nano Center to capitalize on its state-of-the-art facilities and expertise. The Nano Center's clean rooms also provide testing and fabrication services for the R&D units of multinational companies such as HP, Roche and Johnson & Johnson.

"Nanoscience is breaking through barriers in conventional science to find new solutions for age-old problems, like how to make things better, faster, cheaper and healthier for humans and the environment," says Prof. Hanein. "If, in the process, Israel can become the 'land of milk and nano' – to borrow a phrase of Peres's – all the better."

Therapy and diagnostics = "theranostics"

National priorities and TAU know-how are converging in an INNI-sponsored project headed by Prof. Dan

um of 11 laboratories at TAU and other Israeli universities working on nanomedicines for personalized theranostics, which involves the use of nanoparticles to guide drugs and diagnostic tools directly to targets within the body. The researchers hope to improve treatment of cancer, heart disease and inflammatory disorders like Crohn's and colitis.

In Peer's Laboratory of Nanomedicine at the Department of Cell Research and Immunology, George S. Wise Faculty of Life Sciences, the research team is developing a technology based on antibody-coated nanoparticles. These nanoparticles can serve as a GPS navigation system directing nano-sized drug carriers to a disease site.

But Peer is not stopping at smart drug delivery systems.

"My lab is unique in that a team of biologists is concurrently designing

the payload, the actual drugs that will ride the nanometric carriers, including highly personalized medication based on an individual patient's genetics," he says.

TAU partners in the five-year therapeutics initiative include biochemist Prof. Rimona Margalit, whose joint

– ensembles of proteins, fats and genetic material – that are essential for the normal functioning of cells. A special X-ray technique that Beck-Barkai customized for his needs enables the team to measure self-assembling proteins that determine the mechanical properties of

Department of Biochemistry and Molecular Biology, and Prof. Uri Ashery, Department of Neurobiology and Head of the Sagol School of Neuroscience. They will map the location and behavior of proteins in synapses, the connecting points between nerve cells in the brain that enable the transfer of information, learning and memory. By comparing synaptic function in healthy individuals to that of patients with Alzheimer's and Parkinson's, the team hopes to visualize on the nano level exactly where and why brain communications start breaking down with the onset of neurodegenerative diseases.

In another, first-of-its kind project, Dr. Inna Slutsky of the Department of Physiology and Pharmacology, Sackler Faculty of Medicine, is attempting to identify the root cause of Alzheimer's disease – the exact mechanism within brain cells that causes the disease to first appear. Adapting a light-based brain stimulation and recording system that has only recently been invented, Slutsky's group will be able to see, at the tiniest resolution possible, which neu-

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“Our nanoscientists are not satisfied with the obvious and known.”

invention with Peer in targeted chemotherapy delivery led to a startup, as well as biotechnologists, chemists and medical researchers.

Prof. Peer believes that, within a few short years, the researchers will be able to start translating their lab findings into practical applications, and that the discoveries they make could jumpstart new biotechnology companies and jobs in Israel.

The project's enormous potential has attracted a major grant from the Leona M. and Harry B. Helmsley Charitable Trust, as well as additional funding from the Kenneth Rainin Foundation.

different cell types.

“We're figuring out how aberrations in these proteins' structure are correlated to about 100 disorders such as ALS, Parkinson's and diabetes,” says Beck-Barkai, whose million-dollar lab was set up with partial support from the Raymond and Beverly Sackler Institute of Biophysics, and Jill and Jack Gerber of the UK.

“This is a new area of research at the juncture of physics and biology,” says Beck-Barkai, a physicist by training who joined TAU's Nano Center because, he

Nano + biology = the future of medicine

Peer and his TAU research partners belong to a sizeable group at the university who are applying nano techniques toward the early detection, prevention and treatment of diseases.

“This group ingeniously combines the latest, state-of-the-art methods with traditional ones to advance the field of nanomedicine,” says Prof. Ori Cheshnovsky, Chairman of the Nano Center's Scientific Committee and incumbent of the Raymond and Beverly Sackler Chair in Clusters and Nanoparticles.

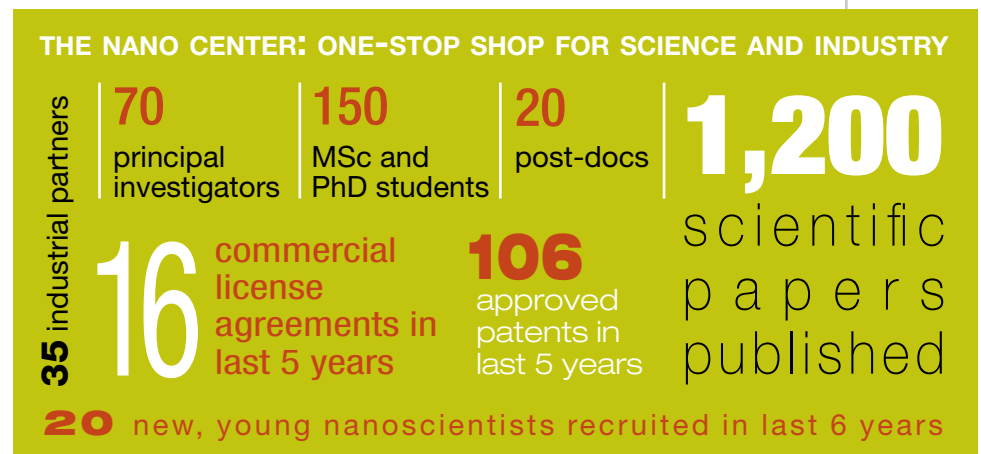
On the most basic level, of figuring out how the body ticks on the minutest scale, Dr. Beck-Barkai and his team study tiny biological nano-complexes

says, “I have the joy of collaborating with scientists in medicine, biology, chemistry and engineering.”

Protein organization in living cells is also the subject of a new joint project at the George S. Wise Faculty of Life Sciences between Dr. David Sprinzak,

ronal activity influences the molecular structure of a key protein, amyloid beta, that has been implicated in Alzheimer's and that Slutsky has been studying for the past 10 years.

“I hope our findings could lead to earlier diagnosis of up to 99% of





Alzheimer’s cases,” says Prof. Slutsky, “and what would be more revolutionary still, we might be able to use the light-based technique to nip the harmful, disease-causing mechanism in the bud.”

Shacham-Diamand’s colleague in the sensor field, Nano Center core member Prof. Fernando Patolsky, is capitalizing on earlier work on devices that identify explosives and toxins to develop an ultrasensitive “cancer sniffer.” This nanobioelectrical diagnostic device could dramatically increase survival rates for lung, gastric or pancreatic cancer patients who are often diagnosed at too late a stage.

In his laboratories at the Raymond and Beverly Sackler School of Chemistry, Patolsky and his research team are fabricating a chip with hundreds of electrical nanosensors that have been modified to recognize chemicals excreted by living cells as a result of routine metabolic activity. These chemical metabolites – detected in the minutest of amounts – indicate the absence or presence of cancer.

“We hope to change the oncological

fer the signals to the brain, are made of conventional metal electrodes and their efficacy is low. Hanein believes she can do better. With a recent major European grant, she will develop a new class of carbon-based nanomaterials that can interface between damaged nerves in the retina and electrical circuitry.

“Retinal cells love the carbon nanotubes I’m using,” says Hanein, who also heads TAU’s Marian Gertner Institute for Medical Nanosystems. “They bind to it like velcro. The carbon has properties of being durable and stable and it also works well with electrical stimuli.”

Hanein adds: “Because eye diseases have no cure, patients and their families sometimes get in touch with me and ask if we’ve found a solution. It’s difficult, because we’re not there yet, but it’s also motivating, because it shows the importance of what we’re doing.”

Brave new world of materials

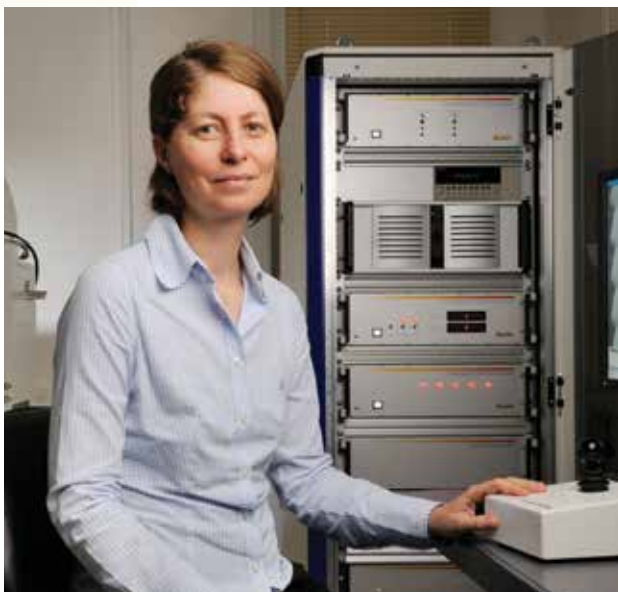
Fusing the organic with the inorganic also brings a gleam to the eye of

Dr. Shachar Richter, another core member of the Nano Center and a trailblazer in the area of nanoscale composite materials.

Richter and his former PhD student, Dr. Elad Mentovich, were the first in the world to develop what they

call a “molecular-based memory” – a 60-atom-wide carbon nano-transistor that can both store and transfer information and that could exponentially increase the RAM memory of tablets and smartphones.

In another recent project, funded by a large grant from the Israeli Ministry of Industry and Trade, Richter and fellow chemist Dr. Michael Gozin are creating biodegradable plastics from... jellyfish. These creatures, increasingly a world scourge, are made up of 95 percent water and 5 percent mucin, a



Bioelectrical hybrids

Prof. Yael Hanein connects between nerves and electronics in the hope of one day reversing age-related blindness.

Medical diagnostics and treatments also number among the many applications of nano-inventions that combine organic or living molecules with electronic components.

“Hybrid technologies that bridge between two very different realms, biology and electronics, are a particular strength of Tel Aviv University,” says Prof. Yosi Shacham-Diamand of the Iby and Aladar Fleischman Faculty of Engineering. The incumbent of the Bernard L. Schwartz Chair in Nanoscale Information Technology, Shacham-Diamand and his research group have more than 10 years’ experience with live cell bio-chips for medical and environmental sensing applications.



“Hybrid technologies that bridge between two very different realms, biology and electronics, are a particular strength of TAU.”

battlefield with our invention,” says Patolsky, who envisions a simple kit for diagnosing cancer swiftly and reliably.

In a similar revolutionary fashion, Prof. Yael Hanein wants to apply her work on human-machine interfaces to restore the eyesight of people afflicted by age-related macular degeneration (AMD). This disease hampers the retina’s ability to detect light and is the third leading cause of blindness in the world.

Current retinal implants, which “read” light and help trans-

atomic scale: the size of an atom or smaller
nanoscale: bigger than an atom and smaller than a cell
microscale: too small to be seen without a light microscope
macroscale: can be seen with the naked eye

sticky mucus-like material.

“OK, this is really gross, but we grind up the jellyfish and filter out the mucin,” explains Shachar. “We can then transform the mucin into ‘smart’ plastics by adding inorganic nanoparticles that emit light, conduct electricity, repel dirt or have any other desired characteristic.”

In yet another project, this time in the field of renewable energy, Richter is working with biochemist Prof. Chanoch Carmeli and engineer Prof. Yossi Rosenwaks to harness photosynthesis, the process by which plants transform the sun’s rays into energy, to create a highly efficient, protein-based solar cell for electricity production.

Electronics of tomorrow

Bio-inspired nanomaterials are similarly being developed by engineer Prof. Gil Rosenman, who holds the Henry and Dinah Krongold Chair of Microelectronics. Rosenman and his colleagues are laying the groundwork for “peptide quantum dots” –multifunctional nanodots of biological origin that have semiconducting, fluorescent and other useful properties. These nanodots could be used for flexible display screens, energy storage, medical screening and drug delivery.

Rosenman is basing his work on self-assembling peptide nanotubes identified by Prof. Ehud Gazit, incumbent of the Chair for the Biotechnology of Neurodegenerative Diseases at TAU and currently the Chief Scientist of the Israeli Ministry of Science and Technology.

“My group’s discovery of self-assembling nanomolecules,” describes Prof. Gazit, “originated in basic research on Alzheimer’s disease. But because of the interdisciplinary nature of nanoscience, our work has found its way to applications in electronics, sensing, energy storage and security, and a number of these have reached the commercialization stage,” Gazit adds.

Meanwhile, at the Raymond and

Beverly Sackler Faculty of Exact Sciences, Professors Yoram Dagan and Eran Rabani are working on increasing the electricity-conducting capabilities of nanocrystals as possible substitutes for the regular silicon-based electronics components of today.

“We’re not talking about microchips anymore; we’re talking about components that are just one-molecule thick,” says Prof. Dagan, who heads TAU’s Chaoul Center for Nanoscale Materials and Systems.

Building for more synergy

Prof. Hanein sums up the inventiveness of her nano colleagues: “The only constraint is our own imaginations.”

And these days, to help facilitate creativity and ramp up the synergy, the University is planning a dedicated building for the Center for Nanoscience and Nanotechnology.

TAU NANO BREAK-THROUGHS BEING COMMERCIALIZED RIGHT NOW:

- New Parkinson’s drug
- Enhanced armor for security purposes
- Tissue engineering for organ implants & repair
- Easy, non-invasive method for instant detection of cancer
- Infrared lasers for protecting aircraft against missiles
- Improved coatings for display panels
- Nano-submarines for targeted drug delivery
- Biosensors for rapid screening and monitoring of cancer cells
- Protein-coated electrodes for energy storage
- Low-cost, high-performance batteries and fuel cells



Prof. Yoram Dagan believes that specially-fabricated nanometric crystals could replace traditional, silicon-based semiconductors.

“Nano activity at TAU has expanded so much that we’ve got people working in labs scattered all across the campus,” Hanein says. “The idea is to get as many scientists as possible under one roof, together with state-of-the-art laboratories, a giant nano-fabrication cleanroom, space for our industry partners, study rooms for our post-docs and graduate students and a visitors center for

introducing high school students to the wonders of nano.

“Then the sky’s the limit,” Hanein smiles. “There’s great emotional appeal in every human technological leap.”

Additional reporting for this article was contributed by the TAU Media Relations Department and the American Friends of Tel Aviv University – National Office.

Driving Change for an **Independent** **Future**

Professors **Emanuel Peled** and **Diana Golodnitsky** of TAU's Center for Renewable Energy are developing **smaller, lighter, stronger** and **cheaper** fuel cells & batteries – cutting-edge technology that could **make electric cars affordable** and help reduce Israel's dependence on foreign oil



By Lisa Kremer

Today's electric cars remain commercially unviable – savings in gasoline notwithstanding – with the costliest component being the battery. Besides being expensive, batteries are still too large, too heavy and too weak. But that could be changing, with scientists like TAU's Prof. Emanuel Peled and Prof. Diana Golodnitsky propelling the industry forward. In the coming years, the car you drive could be powered solely by electrochemistry.

Profs. Peled and Golodnitsky, of the Raymond and Beverly Sackler School of Chemistry, are pioneering technologies for cost-efficient production and storage of energy for electric vehicles. Their goal is to meet the industry benchmark of powering a vehicle for 500 kilometers

(310 miles) on a single charge. Their prominence in the field recently won them a management role in the new Israel National Research Center for Electrochemical Propulsion (INREP), set up by the Prime Minister's Office and the Israel Science Foundation.

The government's motive in supporting the initiative is strategic. Dependence on foreign oil is an Achilles' heel for Israel, as it is for many nations. Achieving independence from oil holds the potential to shift power structures worldwide. With this ambitious goal in mind, in 2011 the government convened a scientific advisory board to vet research directions. Fuel cells and batteries – the core of electrochemical propulsion – won

out as a promising research direction, one that is particularly suited to Israel's strengths and expertise.

“With a strong chemical industry already in place, Israel possesses the potential to be the inventor *and* producer of materials and components needed for powering electric cars,” claims Prof. Peled, an internationally-recognized innovator with 40 patents in fuel cell and battery research.

Powering up the technology

Peled and Golodnitsky are stepping up to the national task. Partnering with groups from three other Israeli universities, they will build on their laboratory findings in lithium-air and advanced lithium-ion batteries as the launchpad for research and development for INREP.



In a separate line of research, supported by a California consortium of donors and the United States-Israel Binational Science Foundation (BSF), they are developing a novel type of sodium-air battery that Peled invented. This type of battery compares positively with lithium-air batteries for powering next-generation electric cars. Both sodium-based and lithium-based cells are expected to deliver a range of 500

kilometers per charge, tripling today's range, but sodium cells will only cost half the price. And, because sodium has greater resistance to more materials, the casings and electrodes of sodium-air batteries can be made more cheaply, further lowering the price.

Peled and Golodnitsky's fuel cell and battery research is also generating interest from other industry and governmental groups. For example, a European Union partnership of universities and industry, including Volkswagen, is supporting their advanced nanotechnology-based investigation into the development of silicon-alloy anodes for lithium air battery systems.

Bringing in fresh energy

Funding from INREP and matching sources is being used by Tel Aviv University to further another national goal – stemming brain drain out of Israel and bringing back outstanding young faculty from leading centers abroad. The University has already recruited one young scientist, Dr. Amir Natan, who joined the Iby and Aladar Fleischman Faculty of Engineering after post-doctoral work at Northwestern University, USA. Now TAU is searching vigorously for an additional recruit

contribute to the team in the area of material science.

TAU's INREP team is one of 55 sustainable energy research groups affiliated with TAU's Center for Renewable Energy. Over 300 scientists and graduate students across the campus study topics such as energy storage, solar-thermal energy, wind turbines, smart electricity grids and biofuel production. In the past five years alone, this research has produced 170 patents and about 1,000 publications in international journals.

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“With a strong chemical industry already in place, Israel possesses the potential to be the inventor *and* producer of materials and components needed for powering electric cars.”

working at the forefront of battery and fuel cell research.

Dr. Natan will be applying his expertise in theoretical modeling to the INREP project, while his colleague at the Fleischman Faculty of Engineering, Prof. Yosi Shacham-Diamand, will

WHAT IS THE DIFFERENCE BETWEEN A FUEL CELL AND A BATTERY?

A **fuel cell** is a power generator that taps into and continuously converts chemical energy sources stored outside the fuel cell into usable electrical energy. As long as it has a source, such as hydrogen and oxygen (air!), it can create power.

A **battery** is a power unit with all of its energy enclosed in one package. It must be charged with energy from the grid from time to time to keep supplying power.

Med Vantage

TAU historians are leading a sea change in how the Mediterranean region is studied

In antiquity, half of the Jewish world spoke Greek – the dominant language and culture in the Mediterranean basin.

Today, despite a 200-kilometer-long coastline stretching along the Mediterranean Sea, Israel is not commonly viewed by the world as a Mediterranean society. Tel Aviv University historians are changing that outlook, and in the process strengthening present-day ties with Israel's Mediterranean neighbors, in particular Greece.



▲
Prof. Irad Malkin

TAU scholars train a long gaze upon the Mediterranean region. Looking beyond artificially delineated time periods, and beyond the borders of modern nations – Israel, Greece, Italy, Turkey,

they see large-scale phenomena and processes. Migration, trade, status of women, and development of language and governance, among others, are studied along the continuum of human habitation in the Mediterranean

region as a whole. This outlook links the history of Israel, on a deep level, with that of other Mediterranean countries whose coastlines hug the sea.

The physics of history

The two dozen faculty members, doctoral students and post-doctoral researchers specializing in Mediterranean civilization at TAU also breach traditional barriers between humanities and science studies to take an interdisciplinary approach to the subject matter.

For example, Prof. Irad Malkin, co-director of TAU's Center for Mediterranean Civilizations project and incumbent of the Maxwell Cummings Family Chair for the Study of Mediterranean History and Culture, melds the exact sciences, social sciences and humanities in his approach to the study of Greek history. In his recently published book, *A Small Greek World: Networks in the Ancient Mediterranean* (Oxford University Press), Prof. Malkin

SACRED SOUNDSCAPES

THE ROLE OF MUSIC IN ANCIENT GREECE

PhD student Amir Yeruham of the School of History is investigating the role that music and musicians played in the various cults of ancient Greece in forging a common Greek religious identity across the Mediterranean. As Amir explains, "music is ever present in the rituals of the Greek city-states. My thesis is that each individual cult had a distinct 'soundscape' – a defining musical style that governed the types of songs, dances, instruments, myth and ritual ideology central to each cult." By researching these diverse soundscapes, Amir hopes to garner a deeper understanding of the crucial role of music in shaping a pan-Hellenic religion.



employs physics theories of synchronicity and network dynamics to investigate how links and hubs multiply to allow a flow of civilizational content and notions of identity, and how complex systems spontaneously self-organize. He examines how and why loosely connected, decentralized city-states and trading stations – spanning from the Black Sea to the Western Mediterranean – organized and self-identified to create the social and cultural network that we know as ancient Greece.

Other cross-disciplinary research topics being pursued at the School of History and the Chaim Rosenberg School of Jewish Studies, both of the Lester and Sally Entin Faculty of Humanities, include spatial perception, music and notions of foreignness in the ancient Mediterranean.

Global attention

The international impact of TAU research in the field is high: the School

of History's *Mediterranean Historical Review* was recently ranked 18th in the world in citations and influence among peer-reviewed history journals by Thomson Reuters Journal Citation Reports. The *Review* reaches 30,000 researchers at 1,600 libraries internationally, and many thousands online.

Historians are not the only ones interested: Prof. Malkin's book on ancient Greece motivated the Greek Ambassador to Israel, Mr. Kyriakos Loukakis, to initiate a special evening at the University, attended by Greek embassy officials and TAU historians.

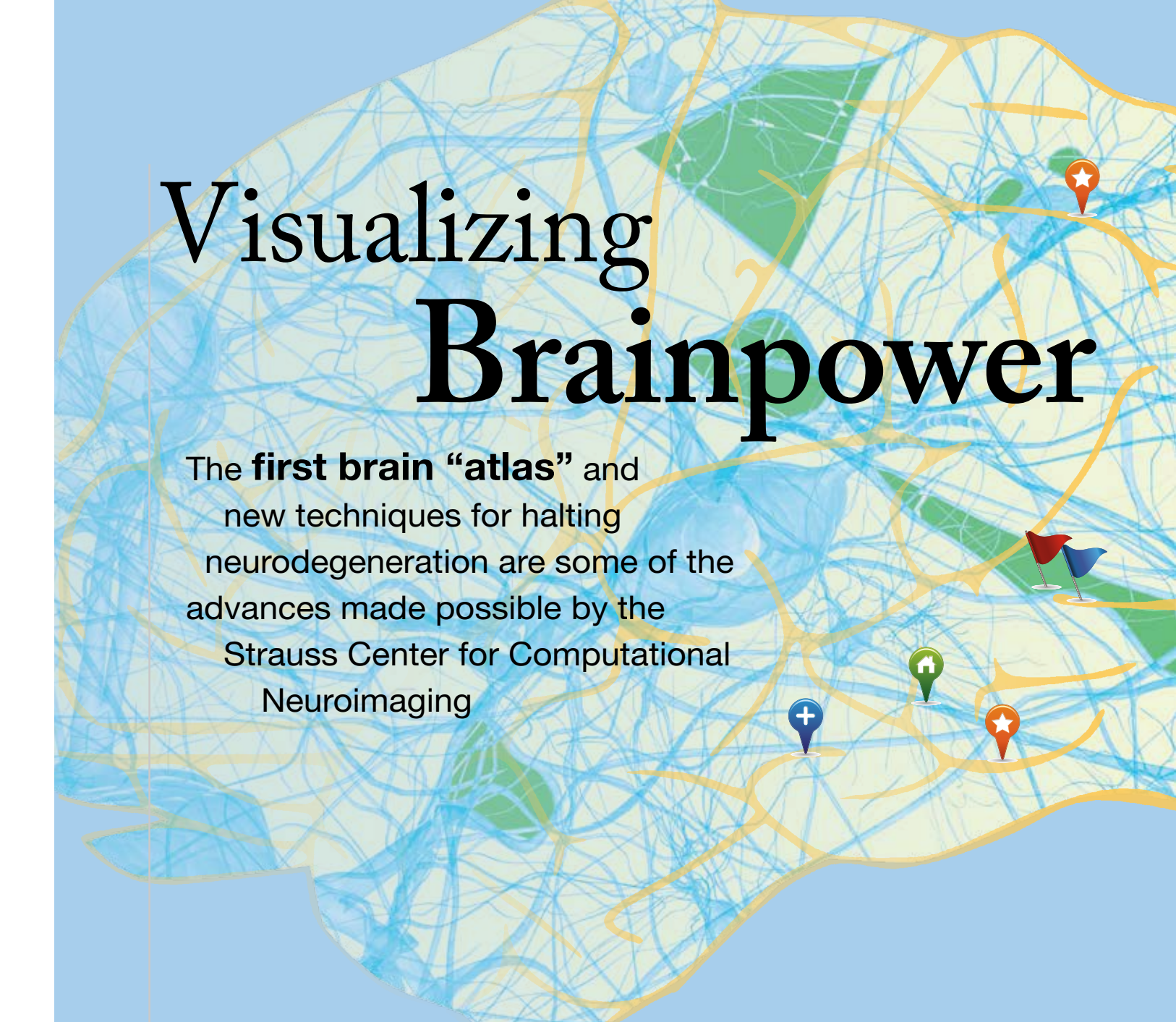
TAU also recently hosted scholars from around the world to discuss the ancient Israel-Greek relationship. This conference was the first of its kind to examine the constitutive narratives and comparable world views of the two civilizations before the age of Alexander the Great, with an emphasis on myth, such as Iphigeneia and Jephthah's daughter; trade among the Phoenicians, Greeks,

and Hebrews; archaeology and chronology; the role of human connectors, or prophets, poets, artisans, mercenaries; and notions of authority and covenant.

At a time when Israel's closest neighbors are in deep political upheaval, and relations with Turkey are only now on the mend, the nurturing of academic cooperation with southern European Mediterranean partners such as Greece is important on a number of levels. Through acknowledging a shared past, ties can become stronger. TAU historians are helping to foster relations and generate good will by looking at our common past. Their approach is helping anchor Israel as a Mediterranean society.

MEDITERRANEAN SEA STUDIES: NEW TAU-RUPPIN CENTER

The surprising discovery of major gas fields off the coast of Israel generated great excitement, but it also highlighted the country's lack of experts that could guide the efficient and environmentally responsible exploitation of this energy wealth. Now, in a move aimed at producing trained experts together with broader academic knowledge, Tel Aviv University is joining up with the Ruppin Academic Center to establish a new Center for Mediterranean Sea Studies. The multidisciplinary center will integrate 50 marine biologists, geophysicists and engineers at both institutions, together with colleagues in Israel and abroad. Beyond gas and oil exploration, the scientists will study a wide spectrum of Mediterranean Sea-related issues that greatly affect Israel's economy and ecology, including desalination, fisheries, wave and wind energy, and tourism. Historical and cultural studies on the region will also be integrated.



Visualizing Brainpower

The **first brain “atlas”** and new techniques for halting neurodegeneration are some of the advances made possible by the **Strauss Center for Computational Neuroimaging**

By Tiffany Roberts

In an ambitious, international research initiative spearheaded by Prof. Yaniv Assaf, Head of TAU’s Alfredo Federico Strauss Center for Computational Neuroimaging, scientists used MRI technology to scan the brains of 120 healthy people to create the first complete “atlas” of white matter. This spongy nerve tissue makes up about 50 percent of the brain’s volume and is responsible for transmitting information between neurons. The European Union-funded project, known as CONNECT, is providing

insight into the microstructure of the human brain.

“The roadmap we developed will enable researchers to compare healthy brains to sick ones,” says Prof. Assaf, a member of the George. S. Wise Faculty of Life Sciences and Sagol School of Neuroscience. “This could eventually assist in early detection and treatment of neurological and psychiatric diseases.”

While in the past, scientists mapped the brain by analyzing the organs of cadavers under a microscope, Assaf’s team used noninvasive MRI techniques

– developed at the Strauss Center – to create 3D images of the brains of living Israelis and Europeans for the CONNECT project.

Pioneering neuroimaging

Since the advent of neuroimaging in Israel in the mid-1990s, Tel Aviv University has been at the forefront of scientific advancement in this interdisciplinary field.

For example, using unique MRI tracking methods at the Strauss Center’s animal model facility, Prof. Yoram

Cohen of the Ramond and Beverly Sackler School of Chemistry transplanted stem cells gleaned from bone marrow into the brain. Initial results indicate that the stem cells can identify unhealthy or damaged tissues, migrate to them and potentially repair or halt cell degeneration.

In a separate study using the animal MRI, Prof. Ina Weiner of the School of Psychological Sciences found that if you give schizophrenia patients drug treatments in early adolescence, you can prevent the devastating effects of the disorder.

The animal MRI scanner has been the basis for more than 30 papers in major scientific journals, as well as the research of over a dozen graduate students.

Next year, the Center will be equipped with a state-of-the-art human MRI. This new facility is expected to contribute to important developments in the understanding of human behavior and neurological diseases. About 20 teams from 5 faculties will use the powerful MRI to explore what they were unable to see before: images of activity in various parts of the human brain.

Zooming in on a single neuron

PhD candidate Daniel Barazany, an avid photographer and tech-lover, is developing sophisticated neuroimaging tools at the Strauss Center. He is searching for the “holy grail” of neuroscience: what the brain looks like and how it works on the level of a single nerve cell. While a conventional MRI scanner can capture a general image of the brain, it is not able to zoom in on the brain’s smallest units. As a result, present understanding of the basic building blocks of the brain is incomplete.

In collaboration with Prof. Assaf, Daniel uses MRI tools to image, in detail, microscopic layers of nerve cells. “If we could study the brain’s microstructure up close,” he explains, “we could potentially pinpoint the precise moment abnormalities occur. With this knowledge, we could develop drugs that target specific neurons and treat devastating neurodegenerative diseases such as ALS and MS.”

A Colton Scholar, Daniel is currently involved in five different MRI experiments at the Strauss Center. He collaborates with Prof. Galit Yovel at the TAU School of Psychological Sciences to study the areas of the brain responsible for vision, and with Prof. Amir Amedi from Hebrew University to examine differences in the microstructure of blind peoples’ brains. He also collaborates and shares ideas with his wife, Hilit Levy, another neuroscience doctoral student at the Department of Neurobiology.

The interdisciplinary nature of neuroscience is the main reason Daniel decided to get involved in the field: “When you study one scientific field, you get one opinion. Neuroscience combines physics, chemistry, biology, medicine, psychology, art, engineering and more. You are exposed to so many different schools of thought.”

Daniel hopes to one day combine all of his interests and pursue a career in the neuroscience industry.



Prof. Yaniv Assaf



Daniel Barazany

Ensuring the World's Food Supply

The Bible tells of the People of Israel being saved from hunger by manna sent from heaven. We may soon find ourselves in need of manna, as arguably the largest challenge for the 21st century is ensuring a constant supply of nutritious food for the world.

By Danny Chamovitz



The world's population is predicted to reach 9 billion by 2050, which is three times the population when I was born half a century ago. This rapid increase in population has led to massive urbanization of land once used for agriculture, resulting in the paradox that as more mouths to feed are added, less land is available to grow the necessary food. The growing population also puts enormous strains on our already endangered sources of fresh water. Add to this equation the environmental effects of global warming and we have a potential global disaster waiting to happen.

So how can we provide the world with more nutritious food, with less land, less water and a hotter climate?

This is such a burgeoning and critical challenge for scientists and policymakers alike, that our efforts have to go first and foremost to solving the problems of food security that we face right now.

Already today, over half the world's population suffers from some form of food insecurity: About one billion people are hungry, while another three billion suffer from vitamin and mineral deficiencies. Another one billion, especially in North America and Europe, suffer from a new type of food security problem – over consumption.


Providing long-term solutions to these issues requires advances not only in plant biology, but also a reevaluation of food policy as it relates to economics, law, politics and public health. For example, issues such as maintenance of wild gene pools, monitoring of bacterial populations, the economic significance of water utilization and the use of arable land have aspects that begin in the academy and end in public policy.

A consistent supply of nutritious food and a secure supply of clean water are essential for ensuring public health. Economic models clearly show that funds invested in basic R&D in plant genetics provide a massive return, but this is only felt years ahead, a time frame not often favored by short-thinking politicians. Thus research to develop crops that have higher yields under

hotter and drier conditions must begin today.

Concerted interdisciplinary collaboration between plant scientists, policy and legal experts, economists and public health professionals has the potential to provide long-term solutions to the problems of food security. It is in this context that the Manna Center for Plant Biosciences at Tel Aviv University is developing a new program in Food Security and Safety, the first of its kind in Israel. This interdisciplinary program will bring together researchers from diverse academic disciplines from around the world to promote innovative research, to create outreach programs with developing countries, and to prepare the next generation of scientists and policymakers to guide global food security issues in the years to come.

Prof. Daniel Chamovitz is the director of the Manna Center for Plant Biosciences at Tel Aviv University. His work has been featured in The Boston Globe, The Wall Street Journal and The Daily Beast, as well as on NPR, the BBC and more. He is the author of What a Plant Knows: A Field Guide to the Senses.

 Prof. Danny Chamovitz

What's at stake here?

Local government now has greater responsibility and larger budgets. It's getting more powerful. Aside from health and security, it handles all aspects of life – education, housing, welfare and the environment. The city of Herzliya with its 90,000 residents has a larger budget than what I had as Minister of Internal Affairs for all of Israel!

Why study local government within academia?

Until now, there's been little academic research on local government in Israel. We need to create the foundation for reform and better policy. There are institutes of this kind at the top US schools, at Harvard, Yale and others. This will be Israel's first.

What will the institute do?

It will hold conferences and conduct research on all aspects of local government – budgets, policy-making and regulatory issues, as well as train a new generation of local government specialists. This year we launched a new study program – a Master's in Public Policy with a track in local government, aimed at mid-career professionals in local authorities. Today, you can't teach public policy without dealing with local government.

Why at TAU?

TAU is the largest university in Israel and has the largest pool of scholars in the fields of social sciences, economics and the environment who can work together to build effective and broad-based research teams. Moreover, TAU already does comprehensive research in the field at the faculty of social sciences.

Why did you join academia?

When I left the turmoil of politics a couple of years ago, I looked for a different way to have influence. I always had an admiration for academia and I like teaching so it was natural for me to



Local Boy Makes Good

Former government minister and Knesset member Ophir Pines-Paz believes that local rather than national government holds the **key to bettering citizens' lives**. That is why he recently joined Tel Aviv University to establish and head Israel's first Institute for Local Government at the Gershon H. Gordon Faculty of Social Sciences.

come here. It's also the closing of a circle: I'm a graduate of Tel Aviv University. Most important, I have a deep belief in this institute and its ability to have significant public impact.

What do you bring to the institute from politics?

A lot of experience, especially from my post as Minister of Internal Affairs. I know the subject of local government well and I know the major players.

What do you see as the major problem facing local government in Israel?

There's no constitution in Israel and no Basic Law on local government, meaning that the status of local government versus the national government and the Knesset is undefined and shaky. Local government is too dependent on national government in the realm of policy. We need more transparency vis-

à-vis the national government. One of the things we'll be doing here is creating an independent and objective archive of statistics on local government that will not be open to political manipulation.

I would sum up by saying that local government really needs this institute. The knowledge produced here on policy formation and reform will enable it to lessen its dependence on national government. This will create a more balanced relationship between the two.

Ophir Pines-Paz received his MA in Public Policy from TAU in 1996. He became a member of Knesset for the Labor Party in 1996, serving until 2010. He has served as Minister of Internal Affairs and Minister of Science, Culture and Sport. He is a recipient of the Ometz Award for good governance and social justice, among other honors. He retired from politics in 2010.

By Louise Shalev



Judith Shostack and her son, Jeremy Spira

Following in Mother's Footsteps

Like their mothers before them, two students who completed TAU's Study Abroad Program forged strong ties with Israel

When Judith Shostack of Toronto, Canada, did a year in TAU's OSP Study Abroad Program in the mid-1970s, she had no way of knowing that her future son, Jeremy Spira, would follow in her footsteps 37 years later, creating an inter-generational connection with Tel Aviv University.

Judith, now Vice President of the Executive Council of the Canadian Friends of TAU in Ontario, spent one year at TAU in 1974-5, immersing herself in Middle Eastern history and politics, learning Hebrew and touring the country, as well as making new friends. "It was an amazing experience," says Judith while on a recent visit to TAU, her first since her student days. "We were taught by major Middle East ex-

perts like Professors Itamar Rabinovich and Shimon Shamir.

"I came from a family with strong Zionist ties," adds Judith. "My grandfather, who had been in the Labor Zionist movement in the 1930s and was a Holocaust survivor, bought a home in Israel, where I spent several happy vacations." She acknowledges that the TAU program strengthened her longstanding commitment to Israel. "There's something special about Israel that you can only experience being here. I'm so proud that Jeremy was able to do this as well."

Meanwhile Jeremy, 20, enjoyed a similar experience. A student majoring in conflict and mediation studies at the University of Waterloo, near Toronto,

Jeremy is hoping to use the knowledge he gained at TAU to jump-start a career in mediation.

“Like for Mom, this has been a really meaningful experience for me and has strengthened my love for Israel,” says Jeremy, who headed the Israel Society on his home campus and was active in Hillel. “After what my grandfather went through in the Holocaust, it was important for me to come to Israel, and that brought me to TAU.”

Jeremy resided in the TAU dorms and enjoyed the University’s close proximity to the vibrant social scene of Tel Aviv and nearby shopping malls and beaches. But more important, he got a lot out of the program. “The academics were definitely on a high standard, the teachers were great and we got a strong grounding in the history, politics and

culture of Israel,” he says. The program included visits to conflict flashpoints such as the Syrian border, trips to kibbutzim and Southern Israel, and meetings with Israeli Arabs and Palestinians.

An enthusiastic cook, Jeremy became the unofficial “chef” for most of the overseas students in the dorms, preparing meals for dozens of participants on an average day. “It was no bother for me. People came to me and brought ingredients and I would rustle up a quick meal for everyone. Eating together creates a community spirit,” he says.

“This is one of the reasons we loved Jeremy,” laughs his friend and dorm roommate Benjamin Michaels, 20, of Albany, New York. Benjamin’s mother, Eileen, also did the TAU program in 1977 and he found it “cool” to see Israel

through her eyes, although with a different lens. “My mother loved it here and always said there were unique things about Israel,” he says. “Her dream was for me to do the program as well.” Ben, who majors in Economics and Business at SUNY Albany, hopes to become a Reform rabbi. In Albany, his mother is President of the family’s local Reform Temple.

Jeremy and Ben are both extremely active in Jewish life on their home campuses. “People have strong assumptions about Israel. They perceive it as a war zone,” says Jeremy. “Our time here will help us set the record straight.”

The Center for Study Abroad is administered by TAU International. For more information go to: <http://international.tau.ac.il/>

Alexandre is French-German, Taj is from Oregon, Margarita was raised in Ukraine. They are part of the first class of students enrolled in TAU’s newly launched International BA in the Liberal Arts, and they are relishing the program’s interdisciplinary offerings. “The job market is so dynamic

First-Ever BA Program in English


that many people now see a humanities education as the best kind of training,” says the director of the program, Dr. Milette Shamir of the Department of English and American Studies. She believes that graduates will leave with the creativity and intellectual flexibility needed to compete in today’s workforce.



From left:
Taj Neuman,
Margarita
Belova and
Alexandre
Arturia






 Dr. Günther
 Jikeli and
 Antonia
 Schmid

A German Lens on Anti-Semitism

Does anti-Zionism equal anti-Semitism? Doctoral and post-doctoral students from Germany visiting at TAU's Kantor Center for the Study of Contemporary European Jewry are examining this pivotal question.

While working with youth organizations in his home town of Berlin, Dr. Günther Jikeli became concerned by the one-sided and blatantly anti-Semitic slogans coming out of certain left-leaning pro-Palestinian groups. Jikeli, who is currently a visiting post-doctoral

student at TAU's Kantor Center for the Study of Contemporary European Jewry, says these anti-Jewish outbursts made him suspicious. "Anti-Zionism and anti-Semitism is the same thing in the European context. They show up together and work hand-in-hand," he asserts.

Jikeli believes that Muslim hatred of Jews is not merely a construct of the political conflict between Jews and Muslims over Palestine, but that in most cases, "it is driven by the same stereotypes that have plagued the Jewish people for over a thousand years."

Jikeli is one of nine German doctoral and post-doctoral students at TAU being funded by the Israel Ministry of Foreign Affairs as part of a special agreement between Israel and the German government marking the 50th anniversary of the Eichmann trial. The two-

year agreement recognizes the growing need to investigate rising anti-Semitism within an academic framework.

Prof. Dina Porat, Head of the Kantor Center and incumbent of the Alfred P. Slaner Chair in Anti-Semitism and Racism endowed by Ruta and Felix Zandman, lauds the project as a "significant contribution to the relations between TAU and German universities. It will advance important research issues, such as immigration and its absorption; xenophobia; intolerance towards the 'other'; and Muslims in Europe and in Germany in particular," she says.

Why TAU?

Asked why he headed to TAU, Jikeli says that although academic interest in anti-Semitism in Germany is on the rise, "there is no better place to study the subject today than at Tel Aviv

University.” Along with the Kantor Center researchers’ expertise and its Database for the Study of Anti-Semitism and Racism, resources available to Jikeli and his colleagues are the Wiener Library’s 1.5 million documents on 20th century Germany, anti-Semitism and the Holocaust.

Jikeli, who received his PhD from the Center for the Research of Anti-Semitism at the Technical University of Berlin, has spent years investigating manifestations of anti-Semitism among Muslim youth in Berlin, London and Paris. His book, *Why Young Muslims Say They Don’t Like Jews*, will be released in its English translation next year. Jikeli was a founding member of the Kreuzberger Initiative against Anti-Semitism, an organization funded by German government agencies to combat anti-Semitism in the Berlin neighborhood of Kreuzberg, with its large population of Turks, Kurds and Palestinians.

Jikeli has identified four recurrent justifications for Jew-hatred among Muslim youths: classic modern anti-Semitism based on conspiracy theories and stereotypes such as “Jews are rich and control the world”; negative views of Jews with reference to Israel and the Arab-Israeli conflict; negative views of Jews based on Islamic identity and ethnicity as reflected in frequently voiced assumptions such as “Muslims just don’t like Jews”; and in the most extreme cases, negative views of Jews without any reason.

This last category is the most intractable and revealing, says Jikeli, who found that about 10% of Muslim youth he examined fell into this group. “These people just openly dislike or hate Jews because they are Jews. It’s anti-Semitism for its own sake.”

What can be done about it? The only

way to combat it in an educational setting would be to encourage self-reflection on sentiments and stereotypes, notes Jikeli. Such a dialogue could stimulate critical thinking and question assumptions that are adopted only because of collective identification. “A human rights approach – that nobody should be discriminated against because of their ethnic or religious background or sexual orientation – might also prove useful.”

TAU’s Dr. Esther Webman, an anti-Semitism expert, Middle East scholar and co-author of *From Empathy to Denial: Arab Responses to the Holocaust*, says, “Günther’s fieldwork is contributing important empirical data on attitudes in major European cities.” The two are considering collaborating on a study about the perceptions of the Holocaust among Muslims in Europe.

Emotional underpinnings

Dr. Julia Eksner, who received her PhD in learning sciences from Northwestern University, is concerned with the relationship between anti-Semitism and emotions. Using theoretical approaches from developmental psychology and anthropology, she aims to explore how marginalized Muslim-oriented youths in Berlin come to position themselves against the State of Israel. Her research is grounded in applied educational work in Berlin with a local organization, StreetGriot Media Education, which she founded in 2006.

Antonia Schmid, a German PhD student also at the Kantor Center, is examining open and coded or latent forms of anti-Semitism in contemporary German films on National Socialism. Although anti-Semitism has been prevalent in post-war Germany, she explains, anti-Semitic manifestations in official discourse and mass culture have been deemed as illegitimate. So in which images does the persisting anti-Semitism show up today? Using a method she developed and calls Visual Discourse

Analysis, Schmid examines the various manifestations of anti-Semitic imagery in films and links the findings to their political context.

Schmid became interested in anti-Semitism in her teenage years while working with youth organizations and anti-fascism NGOs. “As a student in Göttingen and part of the local left, the topic of anti-Semitism began to affect my perspective on Israel,” says Schmid. She describes herself as belonging to the part of the German left which is pro-Israel, as opposed to the other half which is “traditionally anti-imperialist and anti-Zionist.”

Three-way identities

Edna Herlinger, a PhD student of cultural anthropology at Goethe University, Frankfurt, is examining the attitudes of a small group of young Russian-born Jews living in Germany who became attached to the Orthodox and Progressive streams of Judaism. “Jews of Russian origin living in Germany have a three-way identity,” says Herlinger. “They are torn between their Russian, German and Jewish identities. About 10% of those between 18-35 find an outlet in Orthodox Judaism.”

Herlinger’s work examines the cross-over among this population between two narratives relating to WWII and the Holocaust – that of the former Soviet Union and of German Jewry.

Herlinger, who is Jewish, recently married an Israeli and hopes to make her life and raise a family in Israel. Trained for three years in museum studies at the Jewish Museum of Berlin, she dreams of becoming a curator at one of the major museums or working in cultural and educational projects in German-Jewish/Israeli organizations.

These German students hope to gain from interaction among themselves as well as from their individual research. “Agreeing and disagreeing with my colleagues here will be part of my learning process,” says Eksner.

The biomedical venture capital industry in Israel is at a crossroads: After a decade of investments in companies that failed to yield the expected returns, investors have begun reevaluating their strategies. Dr. Dalia Megiddo, a family physician by training and a graduate of the Kellogg-Recanati International Executive MBA Program at TAU's Faculty of Management—Leon Recanati Graduate School of Business Administration, is taking a leading role in this process. A serial entrepreneur, Megiddo was head of Inomed, part of the Jerusalem Global Venture Capital fund, founded the HealthVentures7 fund, and is now involved in Alcobra, a company that is developing an ADD drug for adults. Another exciting company she's launched develops drugs for "orphan diseases" – a term used to denote some 6,000 rare diseases from which only a limited number of people in the world suffer – using a business model that she calls "virtual."

What is the present status of biomed investments in Israel?

The industry has enjoyed a high rate of investment during the last decade, but institutional investors are now cooling down. This is bad news for an industry that employs thousands of researchers and is responsible for incomparable achievements in both science and business.

What is the reason for this slowdown?

The average return on investment for companies was in the range of 8-9 percent, while expectations were for two and half times that, since otherwise there's no justification for the level of financial risk involved. This has led to a decline in the volume of investments, and so we now need to develop other models for financing and product development.

What kind of models?

Models that will make it possible to reduce costs and cut down development time for new drugs. Israel has an advantage in the area of smaller startups that focus on highly specialized drug technologies for orphan diseases. With rare diseases, the sample required for clinical trials is smaller, and costs are correspondingly reduced to just a few tens of millions of dollars. The income potential comes from the high demand for orphan disease treatments. For example, a company called Genzyme has developed a drug for Gaucher's disease, afflicting just 8,000 people globally, and sells a billion dollars' worth of drugs every year. It's win-win for the investors, the drug developer and particularly the patients whom large pharmaceutical companies would otherwise ignore.

What makes your model innovative?

A company operating according to our model is a "lean" company, a sort of hub that out-sources to professional biomed labs all over the world. This virtual model is excellent if you want to establish a startup that will produce a certain drug molecule or component, and will be subsequently sold to a larger corporation for continued development and production. This type of structure makes it pos-

sible to cut down development time by half and reduce costs by a third. The return on investment will therefore be significantly greater.

You were already a successful entrepreneur when you joined the Kellogg-Recanati Program. Why did you enroll?

When I studied medicine I learned that everything I do must be based on experimentation and practice, and I felt that I was not operating in the same way within the business arena. Moreover,



I met some graduates of the program overseas and I saw that they were speaking a language I didn't understand. I wanted to change that."

How did the program hone your managerial skills?

A clear line separates my professional life before my Kellogg-Recanati studies and after them. I learned to methodically analyze a product and understand market demand. Two years ago, when I finished the investment chapter of my second fund and was on my way to raise money for my third fund, I told myself: "Stop, you're doing more of the same. This is not what they taught you in business school." So I analyzed the models that worked and those that didn't, and this led me to a new approach.

Can one learn to become a leader or entrepreneur in the Kellogg-Recanati Program?

Leadership is a personal quality. If, in addition, you have the proper managerial tools, it can become a powerful force. However, a leader who does not apply the right strategy is liable to take the business to bad places and drag everyone else down as well.

What was your experience as a woman joining the male-dominated venture capital world?

Over a decade ago, women's way of coping with the masculine business world was always to adjust to a male way of thinking and behaving. If that meant being aggressive, we became aggressive. We did this intuitively. This is no admirable feat, however, and it took a great deal of time before women of my generation managed to metaphorically rid themselves of their business suits and allow themselves to wear a dress. Today, younger women are entering this world more on their own terms as women.

What is the role of universities in fostering the next generation of biomed innovators?

The universities bear the full brunt of this responsibility. We have amazing researchers in Israel, and if they were able to get more funding and support we would be in a far better place than we are today. I sit on research committees and see researchers struggle to get budgets of fifty thousand dollars. The disproportion is glaring. The government has been starving the universities for a long time, and we are liable to lose our place at the forefront of world research. Budgeting is improving lately, but this is still not enough.

Do you miss your work as a physician?

Yes. I loved my patients and had a hard time weaning myself from my relationships with them. I still have some dreams to fulfill, so I may yet go back one day.

A Turning Point in Biomed Business Management

Dr. Dalia Megiddo, a prominent figure in the world of biomedical venture capital, is using the expertise she gained in TAU's Kellogg-Recanati International Executive MBA Program to pioneer a new business model that can cut drug development time and costs

Since 1976, when he dedicated the Sackler Faculty of Medicine at TAU together with his late brothers Mortimer and Arthur, Dr. Raymond Sackler has been driven by a vision and personal dream – “to keep Israel at the forefront of the international community of science and scholarship and to put Tel Aviv University on the world map.” With keen insight into the University’s potential from the outset, Dr. Sackler and his wife, Mrs. Beverly Sackler, have staunchly promoted growth, mainly in the sciences, and have contributed immensely to shaping intellectual life on the campus.

The Sacklers’ vision for Tel Aviv University as an international hub of academic excellence has been realized through myriad programs. The Mortimer and Raymond Sackler Institute of Advanced Studies brings world-class scholars, including Nobel laureates, to TAU to lecture in the humanities, arts and sciences, as does the Raymond and Beverly Sackler Program for Senior Professors by Special Appointment. The impact of these high-profile visiting professorships on TAU students and faculty is substantial and has led to important academic collaborations.

Astronomy with Harvard

In 2011, the Sacklers established the Raymond and Beverly Sackler TAU-Harvard/ITC Astronomy Program. 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 initiative focuses on the study of cosmology, galaxy, evolution, high-energy phenomena, stars and planetary systems. The program is yet another manifestation of the Sackler ethos at TAU – unstinting generosity focused on quality, excellence and international cooperation.

This collaboration is just one example of the many that have contributed to the high international standing of TAU’s Raymond and Beverly Sackler Faculty of Exact Sciences, dedicated by Dr. and Mrs. Sackler in 1982. With four schools and six institutes named by the Sacklers, among others, the faculty is the best in Israel and among the top 51 in the world according to the Shanghai rankings. Faculty Dean Prof. Yaron Oz notes that “in computing science TAU ranks 29th in the world and in math 30th.”

Award-winning faculty

Oz also proudly notes that faculty members have received some of the most prestigious awards in science, including nine Israel Prizes, seven EMET Prizes, three Wolf Prizes and more than 10 Israel Defense Prizes. In addition, the US National Medal of Science was presented by President Barack

Positioning Israel at the Vanguard of Science

Dr. Raymond and Beverly Sackler:
Over 40 years of impact on the TAU campus



Obama in 2010 to the Faculty’s Prof. Yakir Aharonov for his discoveries in quantum mechanics. “Aharonov’s research, together with that of Prof. Joshua Jortner in chemistry and the late Prof. Yuval Ne’eman in high energy physics, positioned the faculty at the vanguard of science,” says Oz.

As part of their vision, the Sackler family established two large international prizes at the faculty: the Raymond and Beverly Sackler Prize in the Physical Sciences and the Raymond and Beverly Sackler International Prize in Biophysics. The prizes reward outstanding science, originality and excellence among young scientists and have succeeded in identifying some of the world’s most promising academic talent.



Dr. Raymond and Mrs. Beverly Sackler (center) at the 1982 naming of the Faculty of Exact Sciences together with sons Dr. Richard S. Sackler MD (far left) and Mr. Jonathan D. Sackler (far right) and then TAU President Prof. Haim Ben-Shahar

TAU's drive to hire the most outstanding young Israeli scientists and scholars has met with exceptional responsiveness by the Sacklers, who have given a number of substantial gifts in recent years for recruitment, including at the Raymond and Beverly Sackler Institute of Biophysics.

This year, a Biophysics Chair was dedicated in the name of Prof. Joseph Klafter, the TAU President and a member of the Raymond and Beverly Sackler School of Chemistry, bringing the number of Sackler Chairs at TAU to nine.

Israel's leading medical faculty

The Sackler Faculty of Medicine boasts the only medical school in the world to offer three teaching tracks simultane-

ously: the full six-year medical track, a four-year track for graduates in life sciences, and the New York State/American Program for training North American doctors.

With six schools and 16 institutes – two donated by the Sacklers – the Faculty of Medicine is renowned for its outstanding alumni in Israel and overseas, as well as for its research in genetics, neuroscience and physical anthropology. About 1,500 medical researchers, the majority of whom are physicians, work with 17 TAU-affiliated hospitals and medical centers. Faculty Dean Joseph Mekori says, "The Sackler Faculty of Medicine has been and continues to be a major asset to the Israeli health system and to international biomedical research."

Four decades of Sackler support

A physician, entrepreneur and philanthropist, Dr. Raymond Sackler joined the University's Board of Governors in 1972. He was elected Chairman of the Board in 1976 and served one term, until 1979, when he was elected Honorary Chairman. That year he was awarded an honorary doctorate from Tel Aviv University.

Dr. Sackler received his BSc from New York University and MD degree from Middlesex School of Medicine. He is a diplomate of the American Board of Psychiatry and Neurology and a Trustee of New York University Medical Center. He is the recipient of the Chevalier de la Legion d'Honneur (France) and Knight Commander, Order of the British Empire.

Beverly Sackler holds an honorary degree of Doctor of Humane Letters from the University of Connecticut, is an Honorary Member at Christ's College and at Magdalene College, University of Cambridge, and is an Honorary Fellow at the Institute of Astronomy, Cambridge.

The Sacklers' philanthropy includes support for galleries and wings at the Metropolitan Museum of Art and the British Museum, the establishment of laboratories and programs at several American and British universities and research centers, and funding for archaeological projects in the Middle East.

Dr. Sackler has said, "My work ethic and philanthropic philosophy is to strive as hard as I can and give as much as I can in all ways that might be of help."

Prof. Joseph Klafter says that "Raymond is more than a benefactor. He is a friend and adviser. Beyond everything, Raymond believes in the medical and scientific potential of the State of Israel, and he continues to do everything in his power to build up the University's capabilities."

City of Opportunity

Student City, the University's largest building project to date, will **provide affordable housing** for thousands.

Three of TAU's most devoted benefactors have already stepped up to the plate.



the new dormitory buildings will ensure that students have reasonably priced housing in a convenient location right on campus. Custom apartments for disabled students will also be available.

In order to realize the vision of opportunity for all, TAU has turned to its network of generous donors, three of whom have already pledged support.

The Moise Safra family of Brazil donated the first building at Student City – to be named the **Chella and Moise Safra Building** – which will be eight stories high. Other major contributions of the family include the Chella and Moise Safra Gate at TAU as well as donations to numerous educational, medical and religious organizations around the world.

Long-standing Deputy Chairman of the Board of Governors and major TAU benefactor Dr. h.c Karl Heinz-Kipp, together with his wife, Hannelore, donated the **Laura-Schwarz-Kipp Building** at Student City in memory of his beloved mother, Laura Schwarz-Kipp. The building adds to the numerous and diverse gifts of the Kipps to the University over the years,

which include the Laura Schwarz-Kipp Rotunda in the George S. Wise Senate Building, as well as institutes and chairs in the arts, music, humanities, and social and natural sciences, and additional physical landmarks on campus.

Jona and Doretta Goldrich of the US, longtime supporters of TAU, donated the **Goldreich Family Quad**, which will provide students with a central area for recreation. Other major donations of the Goldrich family to TAU include the Goldreich Family Institute for Yiddish, Language, Literature and Culture; the Goldreich Family Multipurpose Sports Building named in memory of Jona's parents and family who perished in the Holocaust, the Goldreich Family Health and Fitness Center and the Goldreich Family Yiddish Digital Archives at Beit Hatefutsot – The Museum of the Jewish People.

By Judd Yadid

Cranes pierce the skies over the south side of Tel Aviv University as eight towers rise from the sand. The Student City complex, comprising 35,000 square meters of built space, will offer 1,400 new residential units for students and young faculty, along with shops, cafes, gardens, squares, promenades and recreational facilities.

This monumental effort will enable the University to expand study opportunities for talented young people from across Israel and around the world, as well as to recruit more of the brightest young scientists and scholars. Student City's residential opportunities will be particularly important for students from Israel's outlying towns and disadvantaged communities. With only 1,000 residential units on campus currently available, such students are left with few affordable housing options in Tel Aviv. Offering them lodgings in

THE BARBARA AND DONALD SEAL FLOOR

Law Floor Gets Facelift

A much-needed renovation of the Research Floor in the Trubowitz Law Building, TAU's oldest structure, is being realized through a generous donation by TAU governors, Justices Barbara and Donald Seal of Montreal, Canada. The Barbara Seal, CM, and Donald W. Seal, QC, Research Floor will provide a modern and comfortable home for the law faculty's research "nerve center" – where many of its cutting edge research institutes are located. Part of the donation is also being earmarked for fellowships for doctoral and post-doctoral students.

Judge Barbara Seal, CM, and Judge Donald Seal, QC, are both TAU honorary doctors and among the most stalwart supporters of the Canadian Friends of TAU (CFTAU). For more than three decades, Judge Barbara Seal has dedicated herself to CFTAU, including serving as National President. An engaged leader in Canada's Jewish community, she has been a judge at the Canadian Citizenship Court since 1997, and was Municipal Councillor of the City of Hampstead

from 1980 through 2001. She has devoted much of her life to advancing social welfare, medical and cultural causes, for which she received numerous accolades, including the Order of Canada.

Judge Donald Seal is a senior partner in the law firm Seal Seidman in Montreal, retired Honorable Municipal Judge, member of the Quebec Bar for over five decades and philanthropist. Active in community, social and charitable organizations, he has served as legal counsel to CFTAU for three decades.

The Seals have worked closely with many of Montreal's leading families to garner support for the University, taking a central role in promoting TAU and graciously welcoming TAU guests into their home.



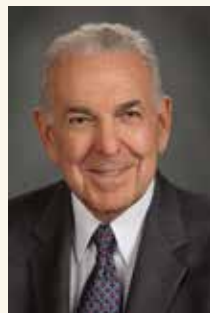
Judges
Barbara and
Donald Seal

**THE IRWIN G. BEUTEL ENTRANCE HALL**

Irwin G. Beutel: Leader and Philanthropist

Montreal community leader and philanthropist Irwin G. Beutel recently stepped into the position of President of the Canadian Friends of Tel Aviv University, Montreal and Eastern Region. A TAU Governor since 2009, Beutel is now increasing his local role in advancing TAU and is working toward widening the circle of Canadian supporters of TAU.

His commitment to education was instilled by his late father, Benjamin, who worked tirelessly to advance Jewish education in Montreal. Over the course of his own lifetime, Irwin Beutel has won the respect and affection of the Montreal community for his visionary leadership and exemplary dedication to local Jewish and Israel-based organizations. Among the many positions he has held are Montreal President of the Jewish National Fund; National President of the Canadian Friends of



Magen David Adom; and National Chair, Canadian Institute of Jewish Research. He remains active on numerous Montreal boards.

Along with promoting TAU in Canada, Beutel is generously supporting a much-needed renovation of the entrance floor of the Sackler School of Medicine building. Each day, thousands of Israeli and international students, researchers, teachers and visitors pass through the floor.

The Sackler Faculty of Medicine is the largest biomedical research and teaching complex in Israel, with 17 affiliated hospitals and 1,500 clinician-researchers.

PROFESSOR BERNARD LEWIS COLLECTION

TAU Gains Valuable Middle East Archive



From left: Prof. Itamar Rabinovich, TAU President Joseph Klaffer and Prof. Bernard Lewis

Middle Eastern studies at TAU have been significantly enriched by the donation of the personal archives of Prof. Bernard Lewis, world-renowned scholar and historian. Located on the Special Collections Floor of the Caroline and Joseph S.

Gruss Library Building and donated in 2011, the Professor Bernard Lewis Collection comprises 18,000 items, including rare books in multiple languages, journals, documents and letters.

Anointed the “doyen of Middle East Studies” by *The New York Times*, Prof. Lewis has been a close friend and supporter of TAU since 1971, including as a visiting lecturer at TAU’s Mortimer and Raymond Sackler Institute of Advanced Studies. “For forty years Prof. Lewis’s annual lectures have enriched our faculty, students and the general public. He has unparalleled knowledge and understanding of the Islamic world,” said former TAU President and

Ambassador to the US, Prof. Itamar Rabinovich, at the plaque unveiling ceremony.

A major asset for Tel Aviv University, the library will “help TAU maintain its leading position in Middle Eastern studies and modern history,” said Prof. Rabinovich, adding that three generations of students have already benefited from Lewis’s

wisdom, warmth, mentoring and personal friendship.

TAU President Joseph Klaffer said, “Bernard, we are touched and grateful for this gift. Through it, your name and your immense influence on the field and on Tel Aviv University will live on for many more generations.”

Prof. Lewis’s close ties with TAU include support for the Moshe Dayan Center for Middle Eastern and African Studies, and for the faculty of humanities in general through the Jenny and Harry Lewis Program in the Humanities, which he established in memory of his parents in 1989.

Among numerous other honors, Prof. Lewis has been awarded 15 honorary doctorates, including from TAU, and is a member of prestigious academies in America, Europe and the Middle East. At 96 years old, he is still going strong and his memoir, *Notes on a Century: Reflections of a Middle East Historian*, was published in May 2012. He is the author and editor of 32 books translated into 29 languages.

Prof. Lewis was recently the guest of honor at American Friends of Tel Aviv University’s gala dinner in New York to benefit the Dayan Center and a new Bernard Lewis Visiting Scholar Program. He was warmly toasted by former Secretary of State Henry Kissinger and other luminaries.

THE SCHLOSBERG-GORELIK SCHOLARSHIP FUND

Family Medical Scholarships for “Beloved Israel”



Painting of the late Dr. Aaron Gorelik

Separated by nearly 6,000 miles, cousins Prof. Arie Schlosberg of Tel Aviv and Rena Gorelik-Scherer of New York shared a common goal – to support higher education in Israel and fulfill their parents’ vision for the Zionist state. The resulting family initiative, the Dr. Pinhas and Raya Schlosberg and Dr. Aaron Gorelik Scholarship Fund, has been aiding medical students in financial need at TAU’s Sackler Faculty of Medicine for decades.

The Fund commemorates Arie’s parents, Dr. Pinhas and Raya Schlosberg, and Rena’s father, the late Dr. Aaron Gorelik. Brothers-in-law Pinhas and Aaron were linked not only through marriage, but also through a common history: Both were expelled by the Turks from Eretz Israel to Alexandria, Egypt, in the 1920s, and both studied medicine

at the American University of Beirut.

“Pinhas didn’t manage to complete his studies in Beirut due to financial duress and this was why it was so important

Yael Avidan, 29, Schlosberg-Gorelik Scholarship recipient



“My father came from Morocco and my mother from Iran. They had no money to send me to university but my dream was to be a medical student. After serving as a medic in the army, I worked in a gas station to save money for university. This scholarship has helped me tremendously and motivated me to work harder in my studies.”

Three beautiful and thought-provoking sculptures by the late artist Ruben Cimet Lerer have found a permanent home in the Sarita and Noel Werthein Entrance Hall of the Sourasky Central Library. Four generations of the Cimet family were in attendance at the dedication ceremony, which celebrated a noted artist, architect and scholar who was a beloved and devoted husband, father, grandfather and great-grandfather.

The donated pieces, *Permanent Quest*, *Pineapple Tree* and *Moving Sail*, represent an important addition to the University's art collection. Speaking of her father's work, Dr. Adina Cimet-Singer said, "not only are the sculptures physically layered, but intellectually layered as well, making them appropriate for a house of learning and a library in particular."

The ceremony included a video commemoration of Rubin Cimet Lerer, focusing on his life history, his family and his work. Dr. Cimet-Singer spoke about the evolution of her father's career and his development as an artist, and Prof. Shoshana Ralsky Cimet, wife of the late Ruben, unveiled the sculptures.

Another cause for celebration was the Cimet family's support for a new Yiddish project at the library for the digitization of valuable periodicals. The project complements TAU's growing involvement in Yiddish scholarship, ensuring that students enrolled in the new Master's in Yiddish

RUBIN CIMET LERER SCULPTURES

Cimet Artistic Legacy



Literature have outstanding resources to draw on. "We are a family that has lived and sustained our connection not only with Israel, but with Yiddish as a language and a culture," said Dr. Cimet-Singer. "We are ecstatic to know that the University recognizes, with the development of a graduate Yiddish program, the importance of a larger focus for Jewish cultural heritage."



From left:
Dr. Adina
Cimet-Singer,
Lic. Avivah
Cimet, Prof.
Shoshana
Ralsky Cimet
and architect
Shalom Cimet
next to the
artworks

for him that needy students in Israel get a better chance," says Arie, who is an emeritus professor in psychiatry at TAU and Head of the Center for the Heritage of Jewry from Egypt. In 1956, his father, Dr. Schlosberg, was expelled from Egypt back to Israel, closing a circle.

After completing his medical studies in Beirut, Aaron Gorelik left for the United States in 1926, where he invented a unique cardiac procedure that he performed successfully on hundreds of patients. An ardent Zionist, he raised funds for boats to save Jews in Europe and dreamt of building a hospital that would make Israel the leading center for heart research in the Middle East. "My father would have been honored that a scholarship bearing his name exists in his beloved Israel and is helping students pursue their medical studies," says his daughter, Rena.

The fund recently received additional support from the Max and Sunny Howard Memorial Foundation of the USA, also members of the extended Schlosberg-Gorelik family.

UK Foundations Fund Cutting-Edge Medical Research

- The Hedrich Charitable Trust is continuing its support for research into the genetic causes of deafness at the laboratory of Prof. Karen Avraham of the Department of Human Genetics and Biochemistry, Sackler Faculty of Medicine. Prof. Avraham is applying the latest genomic technology to identify the genes responsible for deafness and make inroads towards prevention. The Trust was established to commemorate the lives of Hedwig and Richard Mattes by their immediate descendants.
- The London-based Rosetrees Trust is advancing research of neurodegenerative diseases through its support of three TAU scientists: Prof. Daniel Segal of the George S. Wise Faculty of Life Sciences; Dr. Inna Slutsky of the Sackler Faculty of Medicine; and Dr. Eran Perlson, Head of the Mary Shapiro Kantor Neurodegenerative Research Laboratory at the Sackler Faculty of Medicine. Richard Ross, Chairman of Rosetrees and son of the Trust's original founders, aims to fulfill his parents' vision of using venture philanthropy to fund innovative medical research.

South America: Multipiano Sold-Out Tour

The Multipiano ensemble of TAU's Buchmann-Mehta School of Music delighted audiences of thousands at the largest concert halls in Argentina, Brazil, Uruguay and Peru during a highly-acclaimed South American tour in August 2012.



New York: Master of the Past

With toasts given by dignitaries and anecdotes spun by top personalities, legendary Middle East scholar and historian, Prof. Bernard Lewis, was honored in an elegant fundraising event hosted by the American Friends of Tel Aviv University in September at New York's Pierre Hotel.



Punta del Este Luncheon

TAU Governors Adolfo and Miriam Smolarz hosted a festive luncheon at the Punta del Este Yacht Club, attended by Luis Alberto Lacalle, former president of Uruguay; Mrs. Julia Pou de Lacalle, Senator of the Uruguayan Congress; and Mr. Dori Goren, Ambassador of Israel in Uruguay, as well as by supporters of the various South American Friends Associations.



From left: Adolfo Smolarz, Sergio Grosskopf, Polly Deutsch and Fred Chaoul



From left: US News & World Report Editor-in-Chief Mort Zuckerman, Prof. Bernard Lewis, former US Secretary of State Henry Kissinger, and AFTAU National Chairman Jon Gurkoff

London: TAU Trust Launches Culture Group

The UK Trust's new Culture Group organizes interesting cultural events, the proceeds of which go toward groundbreaking research and student scholarships at TAU. Participants have so far enjoyed a vibrant dance performance given by Israel's Batsheva Ensemble and a production of "Old Money" starring TAU Honorary Doctor Maureen Lipman.



Clockwise from top left: TAU Trust Executive Director Cara Case, TAU Trust UK Legacy Manager Avril Fleishman, Tracy-Ann Oberman and TAU Honorary Doctor Maureen Lipman



From left: Amos Sochaczewski and David Azrieli

Montreal: David Azrieli 90th Birthday Celebration

Close to 100 CFTAU Montreal members and supporters gathered on a summer's day at Judy and Amos Sochaczewski's country home in celebration of the 90th birthday of TAU benefactor David Azrieli. Guests were treated to a sumptuous feast, entertaining song and humorous dance.



Israel: Israeli Friends Invited inside Iron Dome

The TAU Israeli Friends' Business Academic Club held a round table discussion in December with TAU alumnus Brig. Gen. (res.) Dr. Danny Gold, instigator of the Iron Dome missile defense system, which successfully intercepted and destroyed over 400 missiles during Israel's Pillar of Defense operation. Dr. Gold shed light on the development of the system and its implementation.



From left: TAU President Prof. Joseph Klaffer, President of the Israeli Friends of TAU Amnon Dick and Dr. Danny Gold

Toronto: Reinforcing TAU Ties with the Community

TAU Honorary Doctor and benefactor Miles Nadal hosted a private dinner where guests heard about many of the exciting initiatives on campus from TAU President Prof. Joseph Klaffer. During the President's week-long visit in Toronto, he addressed the congregation of the Holy Blossom Temple, attended the Canadian launch of the Alpha Omega dental clinics campaign, and was keynote speaker at the opening event of CFTAU Toronto's new Mentor and Alumni Society.



From left: Miles and Kelly Nadal with Prof. Klaffer



French Friends: Orchestrating Social Awareness

TAU's French Friends and Buchmann-Mehta School of Music joined forces with the Paris Chamber Orchestra to provide a unique opportunity for children participating in Sulamot – Music for Social Change, a joint community project of TAU and the Israel Philharmonic Orchestra. The youngsters were treated to four days of musical instruction by five members of the Paris Chamber Orchestra, who came to Israel especially to participate in the program.

New Chair to Bolster Israeli Innovation

The Isaac Gilinski Chair of Entrepreneurship, Technology, Innovation and Management was inaugurated at TAU's Faculty of Management—Leon Recanati Graduate School of Business Administration. The Chair, dedicated to strengthening Israel's position as a world leader in business and high tech, was established by banker and philanthropist Jaime Gilinski of London in the name of his father, outgoing Colombian Ambassador to Israel, Isaac Gilinski.

At the inauguration, Ambassador Gilinski emphasized his “enduring faith in the power of Israeli higher education to maintain the Jewish state's eminence as a world techno-

logical leader,” and singled out TAU for having trained “many of the scientists and engineers responsible for placing Israel and Israeli companies at the forefront of the global high-tech revolution.”

The incumbent of the Gilinski Chair, Prof. Moshe Zviran, is Vice-Dean

of the Recanati School, chair of the Management of Technology and Information Systems Program, and Head of the Marcel and Annie Adams Institute for Business Management Information Systems. He brings to the position extensive experience in both the public and private sectors.



From left: TAU President Joseph Klafter, Ambassador Isaac Gilinski, Jaime Gilinski and TAU Vice President Ranaan Rein



COOPERATION AGREEMENTS

TAU and UC Irvine Forge Links



UC Irvine is fast shedding its image as a center for anti-Israel incitement, and is instead embracing Israeli academia – and Tel Aviv University in particular – as a model for innovative thinking in science and technology.

In the first-ever joint conference between UC Irvine and TAU, engineers from both institutions explored the future role of communications and information technology in the year 2025. The conference was sponsored by the Samu-eli Foundation, established by Dr. Henry Samu-eli, co-founder of Broadcom Corporation, and his wife, Susan Samu-eli.

TAU and the Mayo Clinic: First Joint Symposium

Tel Aviv University and the Mayo Clinic Cancer Center held a joint symposium in Tel Aviv in an effort to jointly accelerate the pace of cancer and translational research. Spearheaded by the Djerassi-Elias Institute of Oncology at the Sackler Faculty of Medicine, the TAU-Mayo Clinic collaboration is co-led by institute head Prof. Nadir Arber of the Sackler Faculty of Medicine and the Tel Aviv Sourasky Medical Center.



Educational Ties with Cyprus



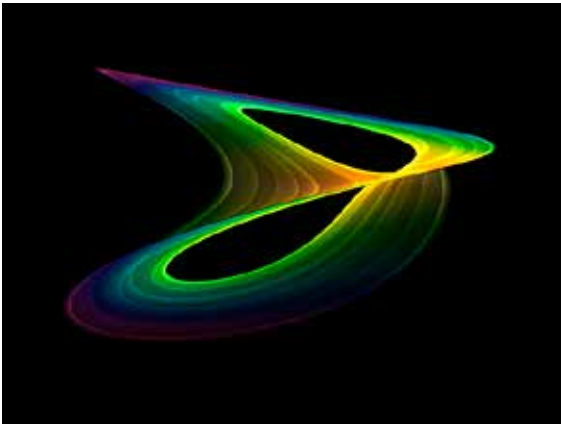
The Department of Mathematics Education of TAU's Jaime and Joan

Constantiner School of Education signed an agreement of cooperation with the University of Cyprus to promote teaching and research collaboration between the two institutions. The agreement was signed between TAU Rector Aron Shai and University of Cyprus Vice Rector for Academic Affairs, Prof. Athanasios Gagatsis. Lecturers and MA students from Cyprus will take a special course at TAU later this year taught by Professors Dina Tirosh, Pessia Tsamir and Tommy Dreyfus.

Star Singaporeans to Study Israeli Innovation at TAU



As part of the overseas college program of the National University of Singapore (NUS), exceptional Singaporean students will study at TAU's Faculty of Management—Leon Recanati Graduate School of Business Administration in the coming years. TAU has tailored special courses in innovation for the visiting students. The overseas partners of the NUS Program, established 10 years ago, can be found in Silicon Valley, Philadelphia, Stockholm, Shanghai, Beijing, India and now Israel.



Launch of New Research Program in Topology

From your iPhone, GPS and new computer to cancer therapies and nuclear physics, topology – the mathematical study of shapes –

plays a fundamental role in almost all the technologies surrounding us. Now, TAU mathematicians are connecting with leading experts around the world in a new research initiative: the Topology in Dynamics and Physics Program. Involving experts from TAU's Raymond and Beverly Sackler School of Mathematical Sciences, ETH-Zurich, University of Toronto, University of Chicago and others, the program will consist of a distinguished lecture series, mini-workshops and a competitive post-doctoral fellowship program. According to TAU head of the program, Prof. Leonid Polterovich, "this important initiative will foster an exchange of ideas, which could eventually lead to fruitful collaborations and substantial scientific progress. The program offers an exciting opportunity for mathematicians around the world to engage in groundbreaking research."



Third Nanjing Delegation Visits TAU

A select group of top government and private officials from the Chinese city of Nanjing visited TAU for an intensive seminar on Israeli high-tech innovation and entrepreneurship, taught by the LAHAV Executive Education center at TAU's Faculty of Management—Leon Recanati Graduate School of Business Administration. The 14-member delegation, the third of its kind to TAU, received briefings from academic experts, managers of venture capital funds and government figures, and visited leading Israeli high-tech companies. Under an agreement signed between the Nanjing city government and TAU,

1,000 officials and executives from Nanjing will arrive at the University over the next five years.

Mr. Udi Aharoni, CEO of LAHAV, stressed that both sides feel a strong sense of commonality, sharing a "great relationship based on trust and networking." He attributed this to a mutual passion for development, and the fact that "Israel and China are home to civilizations that stretch back thousands of years... and both have fast-paced, fast-changing economies and societies."



From left: Mr. Lin Fu, President of the Bank of Nanjing; Udi Aharoni, CEO of LAHAV Executive Education; and Mr. Lu Jian Feng, Vice Director of the Science and Research Committee of the People's Government of Nanjing City.

Frankfurt Lord Mayor Visits Tel Aviv University

Lord Mayor of Frankfurt Peter Feldman visited TAU together with a delegation of Frankfurt city council members, business leaders and representatives of youth organizations. The delegation toured the campus, including TAU's Buchmann-Mehta School of Music, where they heard performances by students. In his greetings to the delegation, President Joseph Klafter spoke of TAU's close



From left: President of Goethe University Prof. Werner Müller-Esterl, Lord Mayor of Frankfurt Peter Feldman, and TAU President Joseph Klafter

ties with German universities, including Goethe University in Frankfurt, with which it has numerous joint projects in childhood literature, psycholinguistics, history of science, structural biology, biophysics and biochemistry, and in the future, biotechnology. President Klafter also noted the considerable contribution of TAU benefactor and Deputy Chairman of the Board of Governors Dr. h.c. Josef Buchmann, who has "worked tirelessly through the years to advance ties between TAU and the city of Frankfurt and its universities, particularly through the Josef Buchmann Doctoral Fellowship Fund."

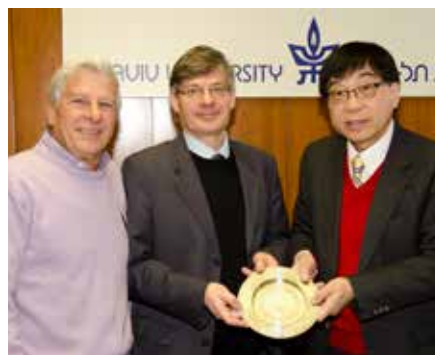
TAU HOSTS AUSTRALIAN NEUROSCIENTIST DELEGATION

A delegation of Australian neuroscientists recently visited Tel Aviv University, organized by the Israeli Ministry of Science & Technology under the Australia-Israel Research Exchange. Headed by Prof. Alan Finkel, Chancellor of Monash University and President-elect of the Australian Academy of Technological Sciences and Engineering (ATSE), the 15-strong delegation met with TAU neurosci-

entists on the first day of their trip to Israel. The TAU contingent was headed by Prof. Illana Gozes, Director of the Adams Super Center for Brain Studies, and Prof. Uri Ashery, Head of the Sagol School of Neuroscience.



From left: Prof. Alan Finkel, Chancellor of Monash University; Prof. John Rostas, President of the Australian Neuroscience Society; Prof. Peter Schofield, Executive Director and CEO of Neuroscience Research Australia; and Prof. Michael Nilsson, Director of the Hunter Medical Research Institute.



From left: Pro-Rector Danny Leviatan, Vice President Raanan Rein and Prof. Roderick Wong

Hong Kong Delegation

TAU recently hosted a delegation from the City University of Hong Kong headed by Prof. Roderick Wong, Vice President, and accompanied by Dr. David Cheng, Associate Vice President. The delegation discussed possible academic cooperation between the two universities together with TAU Vice President Prof. Raanan Rein and Pro-Rector Prof. Danny Leviatan, as well as with Orly Fromer, Advisor

to the President for Resource Development. Further meetings were held with the deans of management and engineering as well as with the head of TAU International's programs.

Australian Government Minister Visits TAU

Australian Minister for Mental Health and Ageing, Mr. Mark Butler, MP, visited Tel Aviv University recently to hear first-hand about TAU's research endeavors in the two fields that fall under his ministerial responsibility. Minister Butler met with TAU President Joseph Klafter, and also took part in the neuroscience delegation visiting from Australia.



Minister Mark Butler and TAU President Joseph Klafter

community

TAU's Sackler Faculty of Medicine has launched a special program in medical knowledge for high-school pupils in the southern town of Netivot.

Taking Medical Knowledge to the Periphery

Led by Prof. Ilan Tsarfaty, the program aims to encourage youth from the periphery to strive toward medical studies. A joint initiative of the Sackler Faculty of Medicine, TAU's Unit for Social Involvement and the Municipality of Netivot, the program takes place both at Netivot and at TAU, and comprises lectures, supervised experiments in laboratories and a tour of the TAU-affiliated Sheba Medical Center.



TAU's Prof. Yosef Shiloh lectures to youngsters from Netivot

COMBATING SEXUAL VIOLENCE AMONG ISRAELI YOUTH

The statistics are frightening: 60% of sexual abuse victims in Israel are assaulted before the age of 18, and only half of the abused report the crimes to the police. In response, Tel Aviv University's "Circle of Trust" program is engaged in vital educational and professional outreach to Israeli youth. The program raises awareness of the acute problem among teenagers and encourages young victims to speak out. Known as "1202" in Israel – the digits of the local sexual

abuse hotline — the program is administrated by the Unit for Social Involvement of TAU's Ruth and Allen Ziegler Student Services Division, in cooperation with the Sexual Assault Crisis Center in Tel Aviv.

Under the program, specially trained TAU student volunteers run workshops for 7th–12th grade pupils in their schools. The student counselors not only shed light on how and why sexual abuse occurs, but they also legitimize discussion of this tradi-

tionally taboo subject. Critically, the workshops present teenagers with options on where to turn if they are – or have ever been – victims of sexual abuse. With 16,000 schoolchildren participating annually, the program has a double impact: teenagers who have been victims of sexual abuse find it easier to reveal their painful experiences and seek help, and Tel Aviv University students learn leadership skills and contribute directly to the community.



Prof. Yossi Leshem (center) receives the Bruno H. Schubert Prize from Carl Albrecht Treuenfels, former President of the German branch of the World Wildlife Fund (left), and Prof. Manfred Niekisch, Chairman of the Prize Committee Board of the Bruno H. Schubert Foundation, at Frankfurt's Old Town Hall.

TAU's "Bird Man" Wins Prestigious Prize

Israel's iconic bird expert, Prof. Yossi Leshem of the Department of Zoology of TAU's George S. Wise Faculty of Life Sciences, is the first Israeli to be awarded Germany's prestigious Bruno H. Schubert Prize. The prize is presented every two years in the field of environmental conservation

and protection. Prof. Leshem, who directs the TAU-affiliated International Center for the Study of Bird Migration in Latrun, was recognized for his four decades of advancing ornithology in Israel and for his numerous projects promoting conservation and environmental awareness.

Weizmann Prize for Outstanding Science

The distinguished 2013 Weizmann Prize in Exact Sciences of the Tel Aviv-Yafo municipality has been awarded to two professors at TAU's Raymond and Beverly Sackler School of Physics and Astronomy.

Prof. Shimon Yankielowicz (right), former TAU Rector and incumbent of the Dr. Teodoro Jack and Dorothea Krauthamer Chair in Physics, was recognized for his contributions to gauge and supersymmetric field theories, and for his work in the last decade on the duality between gauge and gravitational theories.



Prof. Eshel Ben-Jacob (left), incumbent of the Alex Maguy-Glass Chair in Physics of Complex Systems, was cited for his innovative application of physical methods to the study of biological communities such as bacterial colonies, neural networks and tumors, and for his "out-of-the-box" thinking.

Landau Prize for Life's Work

The 2012 Mifal Hapayis Landau Prize for Science and Research was awarded to TAU Professors Shmuel Einav and Ruth Amossy (pictured). Prof. Einav, Iby and Aladar Fleischman Faculty of Engineering, was cited for his breakthroughs on cardiac activity and bloodflow, computational approaches to assess the severity of heart disease and the efficacy of treatment, development of medical



devices and implantable systems, and contribution to building up the field of biomedical engineering in Israel and worldwide.

Amossy, Professor Emerita at the French Department, Lester and Sally Entin Faculty of Humanities, was recognized for her multidisciplinary research on world literature. Her numerous works have become invaluable assets in the field of literary and cultural criticism.

New Chairman for BOG



Prof. Jacob A. Frenkel has taken up his post as the Chairman of the TAU Board of Governors. An internationally-renowned economist, Prof. Frenkel is Chairman of J.P. Morgan Chase International and Chairman of the Board of Trustees of the Group of Thirty (G-30), a private, nonprofit, consultative group for international economics and monetary affairs.

Having served two terms as the Governor of the Bank of Israel, Prof. Frenkel is credited with reducing inflation in Israel and achieving price stability, liberalizing Israel's financial markets, removing foreign exchange controls, and integrating the Israeli economy into the global financial system. Previously he was the Economic Counselor and Director of Research at the International Monetary Fund (IMF).

Prof. Frenkel is a member of the world's leading economic research and advisory bodies, and has received many accolades, honorary degrees and awards including the Czech Karel Englis Prize in Economics, the Gran Cruz Order de Mayo al Merito decoration from the Government of Argentina, the Cavaliere di Gran Croce Order of Merit Decoration from the Republic of Italy and the YIVO Lifetime Achievement Award.

A laureate of the 2002 Israel Prize in Economics and recipient of TAU's Hugo Ramniceanu Prize for Economics, Prof. Frenkel is a former faculty member of TAU's Eitan Berglas School of Economics where he was incumbent of the Vera and Gerald Weisfeld Extraordinary Chair for Economics of Peace and International Relations. He was also on the faculty of the University of Chicago as the David Rockefeller Professor of International Economics.

Upon assuming his post as TAU Board Chairman, Prof. Frenkel noted that the current period of geopolitical and economic uncertainty "poses challenges for the State of Israel generally and for its higher education system particularly. Yet we can and should aspire to a strong, influential, triumphant Tel Aviv University." He extended his heartfelt thanks and appreciation to outgoing TAU Board Chairman Harvey M. Krueger for "his exceptional leadership and outstanding contribution."

New Vice President for R&D



Prof. Yoav Henis has been appointed TAU Vice President for Research and Development. Prof. Henis is an international leader in the field of cancer biophysics. His research, which has been published in prestigious scientific journals, combines cell biology and membrane biophysics to unravel the molecular mechanisms of membrane proteins associated with cancer.

Prof. Henis is a faculty member at TAU's Department of Biochemistry and Neurobiology, George S. Wise Faculty of Life Sciences, and he previously served as Chair of the Department of Neurobiochemistry (today Neurobiology). He has served on various national and university committees, as well as in scientific associations in Israel and the US, and is the recipient of numerous awards and prizes. He has held visiting professorships at MIT, UC Berkeley and Duke University.

New Vice President for Resource Development



A leading Israeli professional in social responsibility, fundraising and non-profit management, **Amos Elad** has been appointed Vice President for Resource Development at TAU. He joins the University after working for the Chairman of the IDB Group, Nochi Dankner, from 2010 to 2013 in the area of humanitarian assistance in Israel's periphery. From 2005 to 2010, Elad held the position of Senior Division Manager in the Jewish Agency, responsible for resource development in Israel, the USA and Europe, including major gifts. Prior to that, at only 27 years of age, Elad co-established and co-headed for 5 years a charitable organization, *Meir Panim*, which set up a chain of food centers and household goods warehouses throughout Israel.

Elad was born in Jerusalem and raised both in Israel and the United States. He holds a BA in Political Science and Middle Eastern Studies from the Hebrew University of Jerusalem. In his IDF service, he served as an officer in the paratroopers. He is married and the father of three children.

ISRAEL PRIZES



TAU's **Prof. Gedeon Dagan** has been awarded the 2012 Israel Prize in Earth and Atmospheric Science. A professor emeritus of hydrology at the Iby and Aladar Fleischman Faculty of Engineering, Dagan was recognized for his pivotal research in groundwater hydrology. His quantitative models of water flow and contaminant transport in soil and aquifers help scientists predict processes relating to irrigation and drainage and to pollution of aquifers.

Prof. Dagan, 80, has published over 170 articles in leading international journals and is the winner of numerous awards, including the Horton Medal of the American Geophysical Union (AGU), the Rothschild Prize and the Stockholm Water Prize, the world's most prestigious water award. Prof. Dagan also held the Raquel and Manuel Klachky Chair in Subsurface Hydrology at TAU.

In recent years Prof. Dagan has served as academic director of the Stockholm Junior Water Competition in Israel, under the auspices of TAU. The competition fosters awareness of water and sustainability issues and promotes training of future specialists.



Prof. Nathan Nelson of TAU's Department of Biochemistry and Molecular Biology, George S. Wise Faculty of Life Sciences, and the Center for Renewable Energy, has won the 2012 Israel Prize in Life Sciences. Prof. Nelson has gained an international reputation in the basic research of cell membrane molecular proteins and complexes.

Prof. Nelson's achievements include solving the structure of the plant PSI super-complex – an extremely intricate pro-

tein system involved in photosynthesis. He is also credited with the discovery of genes coding various neurotransmitter transporters and metal-ion transporters. In research today, Prof. Nelson is harnessing photosynthesis to create a clean and sustainable energy source as part of his work at TAU's Center for Renewable Energy.

In addition to winning numerous prestigious awards in Israel and abroad, Prof. Nelson is a member of EMBO – the European Organization for Excellence in Life Sciences. He has served as president of the Israel Society for Biochemistry and Molecular Biology, and as director of TAU's Institute for Structural Biology. Prof. Nelson has published more than 250 articles, and his work has been cited over 15,000 times in articles by researchers worldwide.



TAU's **Prof. Nola Chalton** has received the 2012 Israel Prize in Performing Arts. A professor emerita of the Department of Theater Arts at the Yolanda and David Katz Faculty of the Arts, Chalton was honored for the indelible mark she has made on Israeli society as a leading theater director, teacher and mentor.

Among the many achievements of her career, Prof. Chalton is credited for establishing documentary style theater in Israel that addresses the country's complex social and political reality.

Prof. Chalton has taught and nurtured generations of actors. At 89, though officially retired, she still teaches a weekly class at the department where she continues to impart her firm belief in the social and pedagogical role of the theater by widening the horizons of her students, developing their belief in the human soul, and emphasizing their responsibility to raise social awareness by giving a voice to those who are not heard.

Israel Academy Appoints Senior and Younger Faculty

Two TAU professors were elected members of the Israel Academy of Sciences and Humanities: **Prof. Nadav Naaman** of the Lester and Sally Entin Faculty of Humanities, a specialist in Jewish history, the ancient Near East, bible and archaeology; and **Professor Emeritus Amnon Aharony** of the Raymond and Beverly Sackler Faculty of Exact Sciences, a physicist. In addition, seven young faculty members from TAU were selected to join the institution's newly established Young Academy of Science. The seven are **Dr. Oded Hod**, Chemistry; **Dr. Tamar Herzig**, History; **Prof. Yael Hanein**, Electrical Engineering; **Prof. Ehud Nakar**, Physics and Astronomy; **Prof. Talia Fisher**, Law; **Prof. Yishai Rosen-Zvi**, Hebrew Culture Studies; and **Prof. Roded Sharan**, Computer Science.



Prof. Ron Harris, prominent legal scholar and historian, was appointed Dean of the Buchmann Faculty of Law. Prof. Harris previously served as the founding academic director of the law faculty's TAU-Northwestern University Executive LLM in Public Law, Director of the David Berg

Institute of Law and History, and co-director of the Batya and Isachar Fischer Center for Corporate Governance and Capital Market Regulation. His current research focuses on the history of business law. He is the author of *Industrializing English Law: Entrepreneurship and Business Organization, 1720-1844*, and of numerous articles in leading international journals. Prof. Harris earned an LLM as well as both a BA and MA in History from TAU, and holds a PhD in History from Columbia University.



Prof. Bilha Davidson-Arad has been appointed Head of the Bob Shapell School of Social Work. A TAU graduate, Prof. Davidson-Arad has twice won the Rector's Prize for Excellence in Teaching, and sits on various professional and governmental committees. Prof. Davidson-Arad's research

and practice focus on the area of child abuse and neglect, and she has published numerous articles analyzing the wellbeing of maltreated children who have remained at home as compared to those who have been removed on the recommendation of child welfare officers.

Two TAU Researchers Receive French Order

Prof. Abraham Hefetz of TAU's Department of Zoology, George S. Wise Faculty of Life Sciences, and **Prof. Hava Bat-Zeev Shyldkrot**, former Chair of TAU's French Department, Lester and Sally Entin Faculty of Humanities, were awarded the prestigious title of "Chevalier de l'Ordre des Palmes Académiques" by the French government. Founded by Napoleon Bonaparte over two hundred years ago, the distinction is given for outstanding contributions to science, education and culture. Prof. Hefetz, an entomologist studying the chemical ecology of social insects, has been engaged in researching invasive ants. Prof. Bat-Zeev Shyldkrot was recognized for her contribution to research on the systematic development of the French language and her advancement of French culture.



Prof. Nili Tabak has been appointed Head of TAU's Stanley Steyer School of Health Professions. A TAU graduate, Prof. Tabak holds a PhD in philosophy, an LLB, an MA in Criminology Education and a BA in Nursing. A widely published expert on nursing and ethics, Prof. Tabak is the

Head of TAU's Ethics Committee and founded the "Heart to Heart" (dying with dignity) voluntary association, is a member of numerous organizations and committees, and serves as the Head of TAU's MA Program in Nursing.

Appointments: **Prof. Pinhas Alpert**, Exact Sciences, incumbent of the Mikhael Moshe Nebenzahl and Dr. Amalia Grossberg Chair in Geodynamics • **Prof. David Assaf**, Humanities, incumbent of the Sir Isaac Wolfson Chair of Jewish Studies • **Prof. Itai Benhar**, Life Sciences, Director of the Laura Schwarz-Kipp Institute of Biotechnology • **Prof. Neima Brauner**, Engineering, incumbent of the Raquel and Manuel Klachky Chair of Fluid Mechanics • **Prof. Jose Brunner**, Law, Head of the Eva and Marc Besen Institute for the Study of Historical Consciousness • **Prof. Meir Chazan**, Humanities, Head of the Chaim Weizmann Institute for the Study of Zionism and Israel • **Prof. Yoram Dagan**, Exact Sciences, Director of the Chaoul Center for Nanoscale Materials and Systems • **Prof. Tamar Dayan**, Life Sciences, incumbent of the Robert Raynor Chair in Environmental Conservation Research • **Prof. Nachum Dershowitz**, Exact Sciences, incumbent of the Chair for Computational Logic • **Prof. Moshe Fischer**, Humanities, incumbent of the Jacob M. Alkow Chair for the History of the Jews in the Ancient World • **Prof. Ehud Gazit**, Life Sciences, incumbent of the Chair of Biotechnology of Neurodegenerative Diseases • **Prof. Nir Giladi**, Medicine, incumbent of the Heinrich (Yehezkel) Sieratzki Chair in Neurology • **Prof. Ilan Goldfarb**, Engineering, Director of the Wolfson Applied Materials Research Center • **Prof. Avner Kalay**, Management, incumbent of the Maurice and Gertrude Deutch Chair for Research in Finance and Accounting • **Prof. Ran Kornowski**, Medicine, incumbent of the Rene G. Favaloro Chair of Thoracic and Cardiovascular Surgery • **Prof. Michael Kozlov**, Medicine, incumbent of the Joseph Klafter Chair in Biophysics • **Prof. Shai Lavi**, Law, Director of the Edmond J. Safra Center for Ethics • **Prof. Ehud Lehrer**, Exact Sciences, incumbent of the Dr. Irene Halmos Chair of Game Theory • **Prof. Joseph Lessing**, Medicine, incumbent of the Alan and Ada Selwyn Chair in Clinical Infertility Research and Molecular Medicine • **Prof. Noah Lewin-Epstein**, Social Sciences, Head of the B.I. and Lucille Cohen Institute for Public Opinion Research • **Prof. Assaf Likhovski**, Law, Director of the David Berg Foundation Institute for Law and History • **Prof. Anat Loewenstein**, Medicine, incumbent of the Sidney A. Fox Chair in Ophthalmology • **Prof. Joseph Mali**, Humanities, incumbent of the Konrad Adenauer Chair for Comparative European History • **Prof.**

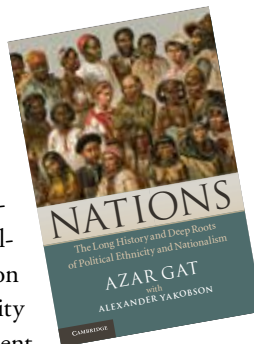
Boris Melomed, Engineering, incumbent of the Optical Solitones Chair • **Prof. Moshe Rehavi**, Medicine, Head of the Shalom and Varda Yoran Institute for Human Genome Research • **Prof. Philip Rosenau**, Exact Sciences, incumbent of the Bauer-Neuman Chair in Applied Mathematics and Theoretical Mechanics • **Prof. Yossi Rosenwaks**, Engineering, Director of the Gordon Center for Energy Studies • **Prof. Zeev Rudnick**, Exact Sciences, incumbent of the Cissy and Aaron Beare Chair of Number Theory • **Prof. Shlomo Ruschin**, Engineering, incumbent of the Chana and Heinrich Manderman Chair in Optoelectronics • **Prof. Mickey Scheinowitz**, Engineering, Director of the Elizabeth and Nicholas Slezak Super-Center for Cardiac Research and Medical Engineering • **Prof. Steven Schochet**, Exact Sciences, Director of the Raymond and Beverly Sackler Scientific Computation Center • **Prof. Ron Shamir**, Exact Sciences, Director of the Edmond J. Safra Center for Bioinformatics • **Prof. Dov Shmotkin**, Social Sciences, Director of the Rosita and Esteban Herczeg Institute of Aging • **Prof. Michael Urbakh**, Exact Sciences, incumbent of the Josef Kryss Chair in Chemistry at the Surfaces and Interfaces • **Prof. Lily Vardimon**, Life Sciences, incumbent of the Simko Chair in Breast Cancer Research • **Prof. Haim Werner**, Medicine, incumbent of the Lady Davis Chair of Biochemistry • **Prof. Moshe Zviran**, Management, incumbent of the Isaac Gilinski Chair of Entrepreneurship, Technology, Innovation and Management

Honors: Academy of Hebrew Language Prize, **Prof. Avner Holtzman**, Humanities • 2012 Rolf Landauer Medal of the International ETOPIM Association, **Prof. David Bergman**, Exact Sciences • Yacov and Zeev Rechter Prize for Architecture, **Dr. Tali Hatuka**, Humanities • 2012 Mifal Hapayis Landau Prize for Science and Research, **Prof. Ruth Amossy**, Humanities, and **Prof. Shmuel Einav**, Engineering • Appointment to the Governing Council of the Israel State Archives, **Prof. David Katz** • The People's Republic of China Friendship Prize, **Prof. Daniel Cohen-Or**, Exact Sciences • International Raoul Wallenberg Medal, **Prof. Dina Porat**, Humanities • Israel Museum's Ya'akov Meshorer Numismatic Prize, **Prof. Alla Kushnir-Stein**, Humanities • TAU 2012 Award for Commitment to Advancement of Women in Academia, **Dr. Neta Erez**, Medicine • 2013 Weizmann Prize in Exact Sciences, **Prof. Shimon Yankielowicz**, Exact Sciences, and **Prof. Eshel Ben-Jacob**, Exact Sciences • Meitner Humboldt Research Award, **Prof. Illana Gozes**, Medicine

Nations: The Long History and Deep Roots of Political Ethnicity and Nationalism

By Azar Gat with Alexander Jakobson, Cambridge University Press (2012)

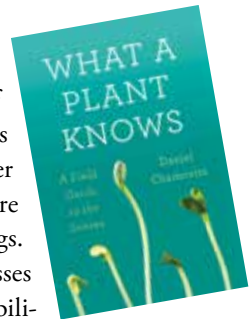
This new study turns the traditional theories of nationalism on their head, arguing that nationalism is not a product of modern Europe, but rather a product of human culture from time immemorial. The book takes the reader on a journey through the links between nationalism, ethnicity and human nature, from ancient Egypt up to the present day. Prof. Gat is the head of the International Master's Program in Security and Diplomacy, Gershon H. Gordon Faculty of Social Sciences, and the incumbent of the Ezer Weizman Chair in National Security Studies.



What a Plant Knows: A Field Guide to the Senses

By Daniel Chamovitz, Scientific American/Farrar, Straus and Giroux (2012)

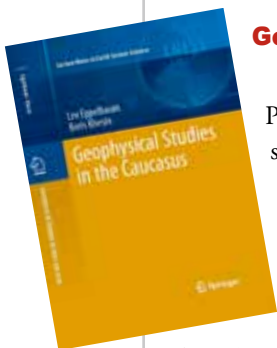
One of Amazon's Top 10 Science Books of 2012, this book settles the question of whether or not plants are aware of their surroundings. Each chapter addresses one of the sensory abilities of plants and their capacity for memory and thought. Chamovitz's aim is to prove that we humans are closer to plants than we think, despite their immobility, and that plants really do care if you play Beethoven or Queen. Prof. Chamovitz is the Director of the Manna Center for Plant Biosciences, a member of the Edmond J. Safra Center for Bioinformatics, and head of a lab at the Department of Molecular Biology and Ecology of Plants, George S. Wise Faculty of Life Sciences.



Geophysical Studies in the Caucasus

By Lev Eppelbaum and Boris Khesin, Springer (2012)

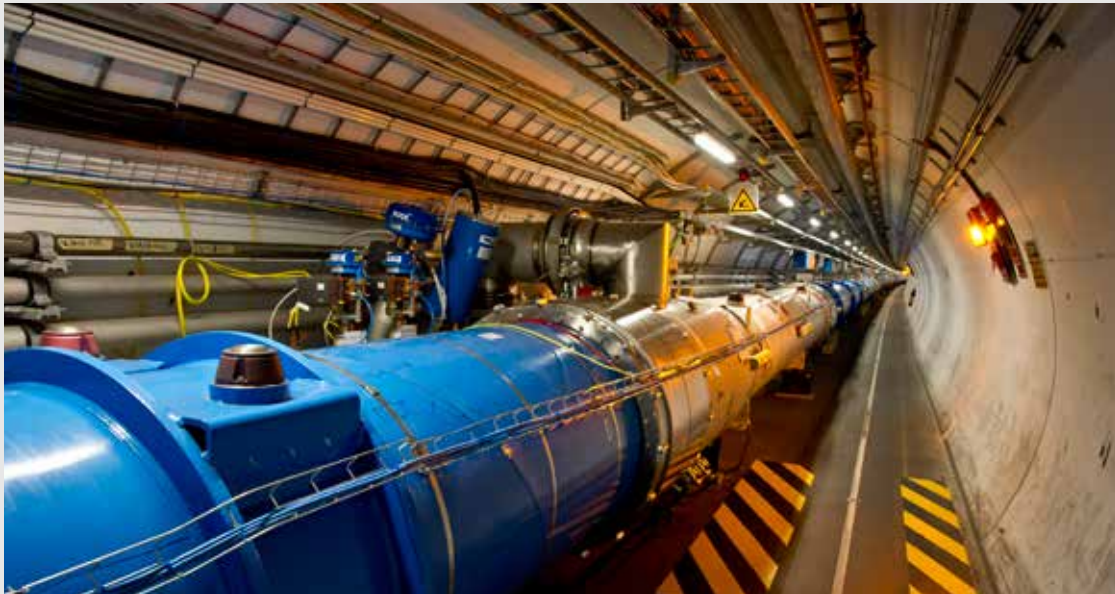
Part of the series, *Lecture Notes in Earth System Sciences*, used by professors at Tel Aviv University and Ben-Gurion University, this book presents new techniques for locating, interpreting, and processing data for important geophysical features in the various environments of the Caucasus region. It sheds light on how new geological and geophysical concepts for this key region can be applied worldwide, such as searching for economic minerals and identifying the precursory signs of earthquakes. Prof. Eppelbaum teaches in the Department of Geophysics and Planetary Sciences, Raymond and Beverly Sackler Faculty of Exact Sciences.



STOP PRESS



The Large Hadron Collider, the biggest particle accelerator in the world



CERN Mission Accomplished

A group of TAU friends and supporters, accompanied by TAU officials and scientists, went on an exclusive visit to CERN – the European Organization for Nuclear Research in Geneva, Switzerland. The highlight of the three-day mission was a private tour of the Large Hadron Collider, one of the most complex experimental facilities ever built and home of the recent discovery of the Higgs boson, or “God particle.” The group heard fascinating lectures by TAU scientists working at CERN on topics that lie at the crossroads of science and philosophy. Other highlights included a Shabbat dinner at the home of TAU Friends Eliane and Philippe Meyer, engaged members of Geneva’s Jewish community, as well as a guided tour of the Martin Bodmer Foundation, one of the largest private libraries in the world. As TAU Governor Dame Shirley Porter remarked, “the trip to CERN was very special — we not only enjoyed it but gleaned much knowledge as well. The accompanying TAU faculty members and those whom we met during our tour made what had been a mystery come alive.”

The mission raised substantial funds for doctoral fellowships at TAU.



From left:
TAU Governor
Dame Shirley
Porter, Perhia
Klafter



From left:
Yehoshua
Etrog and
Catherine
Moore Etrog
with TAU
President
Joseph Klafter

Tel Aviv University Lay Leadership Worldwide

ARGENTINA

Polly Mizrahi de Deutsch

President

Argentinean Friends of Tel Aviv University

AUSTRALIA

Victor Wayne

President

Australian Friends of Tel Aviv University

Victoria Chapter (Melbourne)

David Dinte

President

Australian Friends of Tel Aviv University

New South Wales Chapter (Sydney)

AUSTRIA

Dr. Hannes Androsch

President

Austrian Friends of Tel Aviv University

BRAZIL

Dr. Mario Arthur Adler

President and Chairman

Brazilian Friends of Tel Aviv University

Dr. Esther Kuperman

Head of Chapter, Rio de Janeiro

Brazilian Friends of Tel Aviv University

Dr. Mario Gurvitz Cardoni

Head of Chapter, Porto Alegre

Brazilian Friends of Tel Aviv University

CANADA

Judge Barbara Seal, CM

National President

Canadian Friends of Tel Aviv University (CFTAU)

Irwin G. Beutel

President

Canadian Friends of Tel Aviv University

Montreal Chapter

Jeff Wagman

President

Canadian Friends of Tel Aviv University

Toronto Chapter

FRANCE

Prof. François Heilbronn

President

French Friends of Tel Aviv University (AFAUTA)

GERMANY

Dr. h.c. Ernst Gerhardt

President

German Friends of Tel Aviv University

INDIA

Aaron Solomon

Chairman

Indian Friends of Tel Aviv University

ISRAEL

Amnon Dick

Chairman

Israeli Friends of Tel Aviv University

MEXICO

Jaime Murow Troice

President

Mexican Friends of Tel Aviv University

NETHERLANDS

Robert van der Heijden

President

Dutch Friends of Tel Aviv University

NORWAY

Herman Kahan

Chairman

Norwegian Friends of Tel Aviv University

SOUTH AFRICA

Jonathan Osrin

Chairman

South African Friends of Tel Aviv University

SPAIN

Isaac Querub

President

Spanish Friends of Tel Aviv University

SWEDEN

David Feder

President

Swedish Friends of Tel Aviv University

SWITZERLAND

Anette Bollag-Rothschild

President

Swiss Friends of Tel Aviv University

UK

David Levin

Chairman

Tel Aviv University Trust in Great Britain

Leslie Wolfson

Chairman

Tel Aviv University Trust in Great Britain

Scottish Group

URUGUAY

Bernardo Faincaig

President

Uruguayan Friends of Tel Aviv University

USA

Jon Gurkoff

National Chairman

American Friends of Tel Aviv University (AFTAU)