

IMPACT



AMERICAN ASSOCIATES
Ben-Gurion University
of the Negev

SPRING 2014

THE STEM CELL

NEW PATHS IN REGENERATIVE MEDICINE

ENCOURAGING ENTREPRENEURS

CONVERTING HEAT TO ENERGY

ULTRA-ORTHODOX PSYCHOLOGISTS

DESERT WINE

WORKING FOR MIRACLES BIG AND SMALL

BY LLOYD GOLDMAN
AABGU PRESIDENT



Sometimes it's easy to forget how much of a miracle today's Israel is. I know, of course, that innumerable challenges need to be dealt with, and that the diverse opinion that characterizes the country may never disappear. But what is tangible—what we can see, experience and read about—is a modern, vibrant, thriving nation with more promise than imagination could have conceived a few decades ago.

Of course this big miracle is made up of many small miracles: especially progressive breakthroughs in scientific fields and technology. To me, this issue epitomizes some of these collective miracles of progress. It is fascinating to glimpse how they are fostered, and the people who make them happen.

You'll find a report on BGU's current landmark work in regenerative medicine, using stem cell discoveries that enable scientists to bypass the ethical debates that have surrounded this research. BGU's new Center for Regenerative Medicine is contributing to a revolution in medical care uniquely, in a way that draws on and reinforces the University's long commitment to the region.

I know you'll also be fascinated by the revival of the Negev's wine-growing industry after a hiatus of several thousand years, this time based on solid scientific ground. And, how the thermoelectrics lab is working to help foster a dramatic change in how we use and conserve energy.

BGU is always part of the larger Israeli community, too. Find out how its new psychology programs for ultra-Orthodox men and women are bringing them new skills and opportunities, while respecting their traditions. Discover, too, how BGU offers every student the chance to develop the independent, entrepreneurial thinking today's Israel needs.

So enjoy this issue, and share your thoughts. Send a note to Impact@aabgu.org.

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ON THE COVER: A graphic simulation of stem cells.

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BEER-SHEVA BECOMES ISRAEL'S CYBER CAPITAL

DRAWN BY THE PROVEN expertise in cyber security at Ben-Gurion University of the Negev (BGU), the State of Israel and the Israel Defense Forces are turning Beer-Sheva into the country's cyber capital.

Thousands of soldiers and officers from elite telecommunications and intelligence units, together with Israel's national cyber bureau, are being relocated to Beer-Sheva to leverage Ben-Gurion University's education and research environment, while working with the industrial giants that have invested in

Beer-Sheva's burgeoning ecosystem.

Prime Minister Benjamin Netanyahu announced the establishment of this national cyber complex, naming it CyberSpark. "Beer-Sheva will not only

"Beer-Sheva will not only be the cyber capital of Israel, but one of the most important places in the cyber security field in the world."

— PRIME MINISTER BENJAMIN NETANYAHU

be the cyber capital of Israel, but one of the most important places in the cyber security field in the world," he said at the opening of a two-day CyberTech International Conference and Exhibition co-sponsored by BGU that took place in late January.

"Ben-Gurion University of the Negev

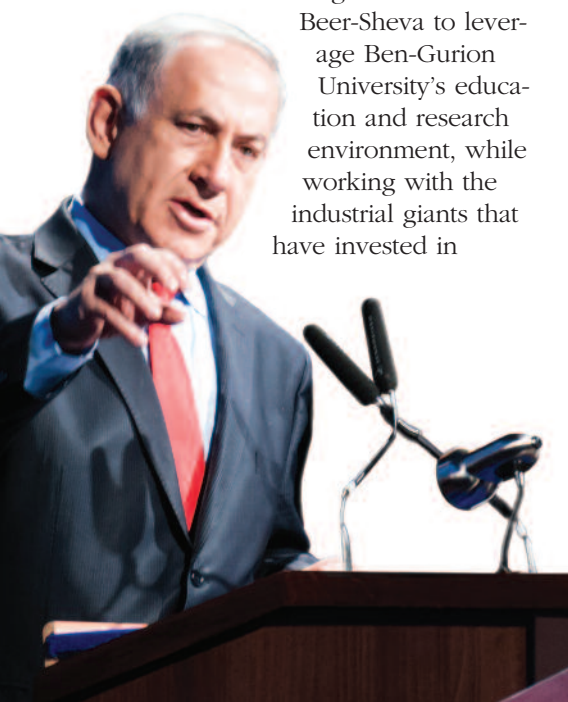
is a leading center of innovation in information security, partnering with industry, security agencies and the government in a variety of tasks to protect Israel's digital borders," said BGU President Rivka Carmi.

"We are at the forefront of cyber security research and are training the security researchers of tomorrow."

At the CyberTech Conference, Fortune 500 companies Lockheed Martin and IBM both announced they would invest in CyberSpark R&D facilities, joining Deutsche Telekom, EMC, and other major companies and startups that moved to Beer-Sheva's new Advanced Technologies Park adjacent to the University. IBM is opening a Center of Excellence for Security and Protection of Infrastructure and Assets in the Alon Building for Hi-Tech on

Continued on next page

Top: CyberSpark, the convergence of business, government and BGU academia in Beer-Sheva, was announced at the CyberTech 2014 conference. **Left:** Prime Minister Benjamin Netanyahu announces CyberSpark.



BGU's Marcus Family Campus.

Together, they will produce a complete ecosystem with all the components for global leadership in the cyber field: a common physical space, allowing the pooling of resources, shared technology infrastructure



Dr. John Evans, vice president of business innovation for Lockheed Martin Corporation, and Dr. Orna Berry, director of EMC Israel, sign agreement to fund collaborative research as BGU President Prof. Rivka Carmi (center) looks on.

construction, and a synergy of specialists, researchers and students.

The Deutsche Telekom Innovation Labs at BGU have been at the forefront of mobile data protection for nearly a decade. Harnessing the innovative might of the telecommunications giant to the unconventional and inventive brainpower of BGU researchers has led to numerous breakthroughs and created an environment that fosters innovation in the field.

"I think it's phenomenal what they're trying to do. I've never seen such a collaboration in the incubation of new technology," said Lockheed Martin Vice President of Global Solutions Robert Eastman about the establishment of CyberSpark. "Israel is one of the best when we look at cyberdefense, and it also is one of the best incubators of new technology and innovation," he added.

Prof. Dan Blumberg, director of BGU's Homeland Security Institute, remarked, "In California's Bay Area you have Silicon Valley. In Berlin, Silicon Allee. In Beer-Sheva, you will have Silicon Wadi." ■



ADVANCED TECHNOLOGIES PARK OPENS NEXT TO BGU

American and international companies, business incubators and technology startups will occupy the 16-building, 23-acre facility.

NEGEV DEVELOPMENT took a significant leap in September with the inauguration of Beer-Sheva's Advanced Technologies Park (ATP) in which Ben-Gurion University of the Negev (BGU) is the academic research partner. Israel Prime Minister Benjamin Netanyahu presided over the ribbon-cutting ceremony on September 3, 2013.

A joint public-private partnership of BGU, the Beer-Sheva Municipality, KUD International LLC, and Gav-Yam Negev, the first building of the ATP was completed and occupied last

summer by international companies that include Oracle, Deutsche Telekom, EMC², RSA, and ECI Telecom. New incubators such as Elbit Incubit and Jerusalem Venture Partner's CyberLabs, as well as BGN Technologies, BGU's technology transfer company, have also taken space.

The high-tech park is adjacent to BGU's Marcus Family Campus, and when finished will encompass 16 buildings on 23 acres, with 2 million square feet of office and lab space, a conference center, and a hotel.

THE CREEPING OF ANTI-SEMITISM IN AMERICA

BY DORON KRAKOW, EXECUTIVE VICE PRESIDENT



It has been difficult not to be drawn to the growing number of news stories about the increasing infiltration of supporters of the Boycott-Divestment-Sanctions (BDS) movement in American academia. BDS is a fundamentally anti-Semitic movement predicated on the notion that Jews are a foreign, colonialist import to "Palestine" with no real ties to the land.

Boycotts of this kind are not new.

Arab-world boycotts of the Jewish community began in pre-State Israel in 1922 and have continued without interruption for nearly a century. And we have eyed, warily, the growing chorus of anti-Semitism in European academia for more than a decade. Still, that was "over there—across the ocean." Cause for concern, but not alarm.

But institutional anti-Semitism here at home? Easy to recognize, but hard to believe. During the past few months, resolutions to boycott collaborations with Israeli universities have been adopted by the Association for Asian Studies, the Native American and Indigenous Studies Association, and generating the most notoriety: the American Studies Association (ASA). AABGU, along with six other friends of Israeli university organizations, participated in an ad denouncing ASA that was placed in both *The New York Times* and *Los Angeles Times*.

In contravention of the principles of academic freedom and in the absence of similar resolutions directed even at a single one of the world's most repressive regimes, BDS proponents have infiltrated the leadership ranks of these

associations and prevailed upon their members to adopt resolutions calling for a boycott.

In January, when the Modern Languages Association (MLA)—to date the largest such association to take up the issue—convened its annual conference in Chicago, a similar resolution was proposed. It was presented at a panel discussion at which not a single opponent of the resolution was permitted to appear. And the MLA refused to allow an alternative panel to be added to the program.

Opponents of the resolution convened their own program at a nearby hotel, featuring Prof. Cary Nelson (University of Illinois), the immediate past president of the American Association of University Presidents; Prof. Russell Berman (Stanford University), immediate past president of the MLA; and BGU's own Prof. Ilan Troen, a former dean of the faculty of humanities and sciences, and currently head of the Schusterman Center for Israel Studies at Brandeis University.

AABGU, together again with our partners at the other American friends, gathered materials and information about the extraordinary work being done in promotion of multiculturalism, increasing access to higher education for Israel's Arab and minority citizens and in support of research collaborations with willing students and scientists across the Middle East.

Troen did us proud. The counter-panel got significant coverage in the media. The resolution passed anyway, 63 to 50.

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1. The first building of the ATP was inaugurated in September. 2. The ATP ribbon-cutting with dignitaries, including Beer-Sheva Mayor Ruvik Danilovich, Prime Minister Benjamin Netanyahu, BGU President Prof. Rivka Carmi. 3. Inside view of the first building in the ATP. 4. Aerial view that depicts BGU's newly acquired North Campus, the ATP and the site of the IDF campus.

A similar amount of space next to the commercial park will be used by the Israel Defense Forces (IDF), whose elite technology units are relocating to the Negev to take advantage of the resources at BGU and in the ATP.

Prime Minister Netanyahu declared the park a national cyber center that will maximize the resources of the University, the IDF and the new high-tech tenants. In order to advance progress, NIS 40 million (\$11 million) in government support has been allocated over the next three years for companies that establish cyber innovation centers in Beer-Sheva.

Speaking at the ceremony,

Continued on next page

Netanyahu stated that “we are launching the economic anchor that will turn Beer-Sheva into a national and international center for cyber security. We are changing the future of Israel and we are doing it in Beer-Sheva.” The prime minister reaffirmed this commitment in January with the announcement of CyberSpark (see page 3).

Cyber security is a major focus and strength at BGU. The University’s emphasis on applied research in information systems is unparalleled in Israel.

“The goal is to create a ‘Silicon Wadi,’ harnessing the research and brainpower emerging from BGU and the IDF, as well as to provide high paying jobs to keep Israel’s best and brightest in the area,” says Doron Krakow, executive vice president of American Associates, Ben-Gurion University of the Negev (AABGU).

“This academic-business-government partnership is the ultimate fulfillment of David Ben-Gurion’s dream to develop the Negev through science

and technology,” says Krakow. “BGU will play a prominent role in major technology innovations that will secure Israel’s future.”

Prof. Rivka Carmi concluded: “The opening of the Advanced Technologies Park in Beer-Sheva will be remembered as the turning point in the development of the Negev. We have always been at the geographical heart of Israel. Now we are on our way to becoming the true center for innovation and growth.” ■

MANDEL FOUNDATION AWARDS \$13 MILLION TO BGU

THE JACK, JOSEPH AND MORTON

Mandel Foundation of Cleveland, Ohio granted \$13,106,700 to BGU in February. The gift is comprised of a capital grant of \$10 million to construct a new building: the Jack, Joseph and Morton Mandel Institute for Social Leadership. The balance will establish the Jack, Joseph and Morton Mandel Honors Program in Social Leadership, which will be housed in the new building.

Morton L. Mandel, Foundation chairman and chief executive officer, remarks, “As part of our long-term relationship with Ben-Gurion University, the Mandel Foundation welcomes the opportunity to assist the University in further developing the area of social leadership. This gift represents our desire to support Ben-Gurion University, the city of Beer-Sheva, and the advancement of social leadership in Israel.”

This new building will be located



The first class of the Mandel Social Leadership MBA Program graduated in January. This program will now be incorporated into the new Jack, Joseph and Morton Mandel Honors Program in Social Leadership.

on BGU’s Marcus Family Campus adjacent to the Guilford Glazer Faculty of Business and Management. The 40,000 square foot building, designed by Plesner Architects of Tel Aviv, will house classrooms, studios, offices, auditoriums, and research facilities, addressing BGU’s academic needs to further develop the area of social leadership.

The Jack, Joseph and Morton Mandel Honors Program in Social Leadership will incorporate both the current academic MBA program in social leadership and the Israel Center for Third-Sector Research. The purpose of the Mandel Honors Program in Social Leadership is to teach students within the Guilford Glazer Faculty—including students enrolled in other

business programs—relevant business administration, social responsibility and social leadership skills.

Prof. Amos Drory, vice president for external affairs and one of the founders and former deans of the Guilford Glazer Faculty of Business and Management, adds, “This donation makes it possible to create the highest quality educational program to train the next generation of nonprofit managers, while broadening the scope of research in the field and making a real impact on the quality of NGO [non-governmental organization] management in Israel.

“This is the Mandel Foundation’s unique vision and this is likewise part of our DNA. A perfect match!” ■

GUY GECHT grew up in Beer-Sheva and was drawn into BGU's orbit early. "The University was right there and I was involved with classes for kids my age when I was 14," he says.

"I got exposed to computer science—programming and working on actual projects. People encouraged me to focus on programming."

Continuing on for a degree, Gecht was attracted to many subjects, including economics, but the original interest held. "I was really fascinated by the magic of software," he says.

"It was the early days of the personal computer so we were working on a lot of things that are now part of everyday life. There was a lot of excitement about how computers would change the world, which I shared—and still do."

Gecht's enthusiasm led him to spend 18 hours per day attending class, then working in the afternoon with some of his professors and at nights in a company that developed computers for educational purposes. After earning his degree in mathematics and computer science, he joined the Israel Defense Forces, which proved to be the second half of his preparation for his chosen life path.

"The army was a phenomenal experience for me," he recounts. "At just 20, I was very quickly put into a leadership position, managing people and a very complex multi-million dollar project." He directed an engineering development team and was later an acting manager of an IDF high-tech division.

"You learn a lot in the army about management, how to work in high-pressure environments, working on tough deadlines," he says. "My officer training was almost like getting my master's degree in leadership. Between my education at BGU and my five years in the army, I couldn't have asked for better preparation."

Gecht's first post-IDF job, a venture to bring Apple computers to the private sector, gave him his first introduction to the business world. The experience also prompted him to move to California's Silicon Valley.

"I liked the environment and really wanted to be part of something to change the world—not just think about it." He worked at a few software startups but was interested in experience with a bigger company. A firm called Electronics for Imaging (EFI) offered him the job of head

of engineering to replace the person who moved on to be chief executive officer.

When Gecht joined EFI in 1995 he found an exciting but challenging opportunity. EFI was a printing firm with a very successful product, but its survival was threatened by industry shifts that Gecht understood well. "Both the company and the product had to change for a different world where people will read most documents online."

He rose quickly and was named chief executive officer in 2000. In this role, he has guided the Fremont-based company through a number of acquisitions, opened new markets and diversified company offerings. Dozens of new products have been launched. Today, EFI products include business automation systems; printers, inks and software that enable customers to print on virtually any surface or material; and mobile cloud solutions.

The company is known for its intensive R&D and Gecht sees this as imperative. "In our industry, the competition is fierce and customers decide carefully who to spend their limited budgets with. Most are small family-owned businesses in the printing, graphic arts, packaging, and ceramic tile industries, and they depend on us for innovation. We're passionate about helping them."

Guy Gecht and his family visit Beer-Sheva regularly to see his parents

and on behalf of EFI. Driving by BGU, he says, gives him "a warm feeling that continues to grow." He serves on the board of an Israeli cyber security company, Check Point Software, and notices the number of new BGU graduates coming into the firm.

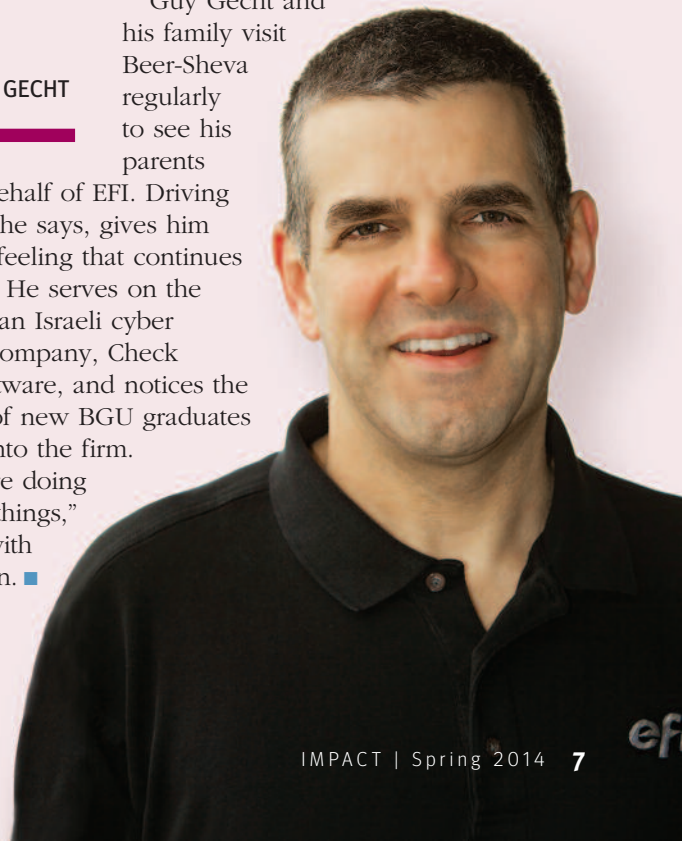
"They're doing amazing things," he says with admiration. ■

GUY GECHT

LEADING THE DIGITAL REVOLUTION

"Between my education at BGU and my five years in the army, I couldn't have asked for better preparation."

— GUY GECHT



RACHEL AND MAX JAVIT believe that the future of Judaism depends on Israel, and the future of Israel depends on the Negev. They also think that supporting Israel's immediate and future development is a necessity.

"The country is very small, and what they're doing is phenomenal," Max says. "It's recognized worldwide for its amazing technology, but Israel needs help—particularly in the south—to do more research, to bring more people there, to do whatever it takes."

Rachel agrees. "The future is very promising. But the situation Israel is in politically, surrounded by enemies, means we need to help."

The Javits have been staunch supporters of Israel and its educational institutions for many years, but were familiar with BGU only by reputation, until recently. Rachel, a native Israeli, visited BGU in the course of a mission and shared her enthusiasm with Max.

"We met the scientists and were very impressed with the caliber of all the people and what they're working on," says Max. "They're enhancing the quality of life for all Israelis. Just as we saw happen in the north, the industries in the south are developing, bringing jobs and an economic boom."

Knowing that BGU is a key factor in the region's growth, the Javits met with President Prof. Rivka Carmi and offered support. She suggested several options, one of which immediately appealed to Max. "He's always been interested in defense and its importance to Israel," Rachel notes.

The project they decided on was to build a miniature space satellite and send it into orbit. Prof. Dan Blumberg, director of BGU's Homeland Security Institute, is leading the development. The pico-satellite or BGUSAT, as it's known, will be smaller than a shoebox and weigh about six and a half pounds. It will carry specially designed imaging, communication and GPS technologies, including



RACHEL AND MAX JAVIT
BOCA RATON, FLORIDA

GIVING ISRAEL "EYES IN THE SKY"

a two-camera imaging system that uses wavelengths in the visible and short wave infrared spectrums.

In addition to generating valuable data for researchers to work with in the future, the satellite design and production stages are invaluable experiences in themselves. BGU scientists and students are learning how to miniaturize space components, apply robotics knowledge, study the communication issues related to transmitting data both ways, operate solar panels in space, and much more, Prof. Blumberg pointed out.

The anticipated launch will give Israel a foothold in space and firmly position it as the aerospace leader in the region. It will also advance Israel's stake in the growing international market for homeland security technology.

For Max Javit, the satellite program is a

significant step toward safeguarding Israel and counter- ing terrorism. "I feel it will be Israel's eyes in the sky," he says. "Finding out what your neighbors and enemies are doing and what's going on elsewhere in the globe is very important. Defense is absolutely critical."

The Javits are thrilled with the development progress of BGUSAT, but point out a need for additional support. They are generously underwriting the cost of building the satellite, and also the ground receiving station that will receive data once it's in orbit. Support for the launch itself—which will piggyback on a group launch probably from Europe—is needed.

Max, an AABGU board member, retired from a real estate development business that is now run by one of the couple's three children. He and Rachel split their time between Connecticut and Florida. Among their charitable enterprises, supporting Israel is their major commitment, Rachel says.

"When Israel succeeds, all Jews walk taller and prouder around the world. There's a symbiotic relationship between Israel and the Diaspora. And we should work together." ■

WHEN IN 1998 Terry Meyerhoff Rubenstein assumed leadership of the Joseph and Harvey Meyerhoff Family Charitable Funds—known more simply as “the Funds”—she began spending 40 to 50 days in Israel each year and learned a lot about the country.

“I saw a tremendous potential for growth in the south,” she says. “As a former builder and developer, that’s how I look at things. We saw the true potential of the Negev and we continue to invest in BGU—it’s the nexus, the anchor for everything there.”

Terry’s grandfather, Joseph Meyerhoff, was a BGU benefactor from the University’s early days. He had come to the United States from Ukraine as a boy in 1906, and ultimately made his fortune in residential and commercial construction and development.

A visit to Israel in 1949 prompted an abiding concern for its people. He worked to help foster a business economy for the struggling young country, and headed key organizations such as the Israel Education Fund, United Jewish Appeal and Israel Bonds.

With his son, Harvey (Terry’s father), Joseph created the Funds, which has continued as a family foundation devoted to Israel and Jewish charities, as well as to museums and cultural institutions in Baltimore and elsewhere in the U.S. In Israel, the family built libraries, daycare centers, community centers, sports centers, auditoriums, and much more. They have generously supported the nation’s universities.

Most recently, the Funds contributed to building the American Associates Village at Sede Boqer. The gift created four courtyards for the housing complex, which serves graduate students of the Jacob Blaustein Institutes for Desert Research—a program that Terry appreciates.

“What I especially like about BGU is that it brings so many people from around the world to learn about water and conservation. It’s an incredibly important message for the world that Israel shares its knowledge as the ‘water doctor of the world’ and that others come to the Negev to see how it’s done.”

The family also finances student scholarships, and has



**TERRY M. RUBENSTEIN, THE MEYERHOFF FUNDS
BALTIMORE, MARYLAND**

A FAMILY MISSION: BUILDING ISRAEL’S SOUTH

supported the graduate program in nonprofit management, which Terry believes is extremely important for leading the way in Israel.

Terry has also stayed attuned to Beer-Sheva’s needs. “As builders and developers, we understand the role of having strong communities and activities. We’re very concerned about the quality of life there for everyone,” she says.

The Funds built a high school for gifted Arab and Bedouin students, a library, a center for the blind, a theater, and more.

“We’ve helped develop leadership programs for the mayors, businesses and nonprofits in the southern region to strengthen the whole area.” She believes that everything is in place to fulfill the region’s tremendous potential: BGU, Soroka University Medical Center, the school system, a dynamic mayor, and a road system through the undeveloped land that is ready for growth.

“The University has developed beautifully and has been an extraordinarily important part of the area’s success,” she says. “It’s demonstrated a real sensitivity to the region and the neighborhood it belongs to—BGU doesn’t simply happen to be there, it’s *of* the place. That’s a huge difference.

“It’s in the forefront of most of the social changes that have occurred and will occur. It brings a lot of talent to the south and that’s very important to the future of the country.”

In 2005, Terry’s leadership was recognized with an honorary doctorate from BGU.

Terry retired as the Funds’ executive vice president in 2011, but the Funds remain a family enterprise for the Meyerhoffs. Terry’s daughter, Elizabeth Minkin, is now the Funds’ director of Baltimore and Domestic Initiatives, and Rafi Rone directs Jewish and Israel Initiatives.

Instilling responsible philanthropy in each generation is a major priority. “We feel very privileged and lucky and blessed to work on these projects that can make such a difference to people,” Terry observes.

“The interesting thing about philanthropy is that you get much more than you give. I think people miss a lot by not being involved in communal and charitable activities.” ■

THE SCIENCE OF DESERT WINE



IMAGINE A DRY, HOT desert landscape filled with vineyards.

The vision may sound surreal, but today's Negev desert is home to a flourishing wine industry, thanks to BGU research into arid-land agriculture and in particular—grape cultivation.

Making wine in the desert reinvents a staple product of the region's early history.

"It's amazing, but the archeological remnants show that every Nabatean village, thousands of years ago, harbored huge

wine presses," says Dr. Aaron Fait,

a researcher in the French Associates

Institute for Agriculture and

Biotechnology of

Drylands, part of

the Jacob Blaustein

Institutes for

Desert Research.

"The extent of

production

indicates that

the wine was

not just for local use, but was exported to the Mediterranean: Greece, Egypt, Turkey."

Dr. Fait, a plant biochemist, researches seed and fruit quality and plant metabolism to understand their regulation and improve desert agricultural products. He works directly with farmers in an attempt to apply new scientific ideas and monitor results. Beyond the surprise of how well grapes can grow in the Negev's harsh environment, he sees an ironic twist to Israel's winemaking experience.

"For thousands of years the art of wine-making was developed in Europe. But the climate is changing, so the traditional ways no longer work. Now Israel comes back into the wine world and is able to show the great winemaking regions how to re-invent viticulture for arid environments and extreme conditions."

Dr. Fait and his colleagues advise Italian winemakers, as well as their new counterparts in the Negev.

Top: Grape vines in the desert **Left:** Daniel Kish, one of the boutique winemakers in the Negev, owns the Derech Eretz vineyard.

WINEMAKING THEN AND NOW

The Negev climate has not changed for thousands of years, Fait says. “There was very little rain, high light and large variance in temperature from day to night. The Nabateans knew how to use limited water resources.” They terraced the hills, took advantage of the dew created by the Negev plateau’s elevation, and stored wine in the cool environments under the rocks of canyons between hills. The wine industry evidently thrived, but ended with the Islamic conquest of 634 AD.

“Today we’re basically doing the same, but with new technology,” Fait says. Drip irrigation, which was invented in Israel, precisely controls and minimizes water use. Desalinated water from the Mediterranean—through a process partly developed at BGU—works well for irrigation since grapes, unlike crops such as peppers and



Left: Dr. Aaron Fait **Right:** Desert winemakers benefit from scientific advances made in BGU labs.

Significant attention is given also to the interaction between light exposure and temperature, which can have a negative effect via sunburn.

These practical measures sustain about a dozen different vineyards in the Negev that are gaining international recognition for high quality wine. But there is more to the story of how basic scientific research feeds the experiments that benefit farmers.

Fait’s work on seed and fruit quality aims at improving plants’ nutritional value and flavor. He is immersed in studying plant metabolomics—a new field that researches the biochemical interactions that govern a plant’s life.

“The research gives us a picture of the biochemical network of the plant or seed, and how the network changes at several levels in the cell, from the metabolites to the genes, in response to growing conditions and environmental cues. For example, we can look at the

changes in the biochemical network during seed and fruit development, or in response to stress.”

FROM LAB TO FIELD

Thanks to technology developed during the past 15 years, the pace of investigating plant metabolism is skyrocketing. New, highly sensitive mass spectrometry-based machines operate robotically, day and night, so hundreds of metabolites from a single sample, a seed or a few cells, can be examined at one shot. This enables scientists to conduct large-scale population studies, which are important because plant traits are regulated by numerous genes.

Tomato research, for example, demonstrates the potential gains. To produce better tasting and more nutritious tomatoes, Fait explains, scientists collect genotypes from different ancestors of today’s tomato. “Our commercial crop is very light in genetic variability because modern agriculture prefers uniformity. So variability was lost. Now we want to reintroduce some of these traits.”

“It’s amazing, but the archeological remnants show that every Nabatean village, thousands of years ago, harbored huge wine presses.” — DR. AARON FAIT

melons, do not grow well with the salinity that is found in brackish water.

Recycled water may also be employed, as determined by each vineyard’s resource needs. Typically, the soil is covered with nylon sheets to avoid evaporation.

It has been proven that regulated stress can be a good tool for improving fruit quality. “We can use wild ancestors to bring back flavor. And we can add back health promoters like anti-inflammatories and antioxidants, which are molecules produced when the plant is under stress.” Metabolites also protect the plant from threats like pathogens, a pest attack or ultraviolet light, as well as water deficit.



Measuring the transpiration in a plant through the stomata, which are small pores on the top and bottom of a leaf that are responsible for taking in and expelling carbon dioxide and moisture.

“Cultivated crops are grown stress free, so the biosynthesis of protective metabolites can become down-regulated. The plant doesn’t need to make the chemicals that protect it, which actually are what contribute to its good taste and color.” In other words, stressed plants produce better quality crops.

In the case of grapes, vines that are given just the bare minimum of water produce small, intensely flavored fruit with more sugar—ideal for winemaking. Additionally, grapes grown in arid and semi-arid lands are stressed by strong light, hot and cold temperatures, and, often, saline soil.

All these stresses produce specific molecular responses, which will affect the blend of flavors and characteristics of the wine, Fait finds. The more scientists understand the vine’s interaction with its environment on the molecular

level, the more they can teach farmers about growing better grapes.

SHARING THE SCIENCE

The Negev’s new success in viniculture is already drawing other wine-making regions around the world to Israeli researchers for advice.

“The climate is changing so fast we need to reinvent viniculture, and

that situation. It’s a change of concept—a new way of thinking.

“I see Israel modeling for other nations the effects of climate change on wine quality. We have a fantastic climate gradient, irradiation, high temperature, almost no rain, and we use it all to grow quality wine. We learn how to apply the correct irrigation in the correct environment and use a variety of cultivars. We are



Dr. Fait’s students from the Albert Katz International School for Desert Studies measure plant morphology and physiology in a deficit irrigation experiment at the Derech Eretz vineyard (Kish farm).

these new measures can be used elsewhere, as well as in Israel,” Fait says. He continues a long-term collaboration with researchers in Reno, Nevada (“similar climate, but more snow!”), but is now also engaged with wine regions in Italy and France.

Since 1990, France’s famed Bordeaux region has experienced severe change in climate. And, the vine-hills of northeast Italy have been subjected to drought and dramatically high temperatures during the period of grape-berry maturation every three or four years, conditions not previously known. Some years, 30 percent of the crop has been lost and wine quality was affected.

The need to change traditional methods is widely recognized. Fait notes that how to irrigate vines is still under debate in various grape-growing regions, as well as new trends of biodynamic cropping.

“They never thought they’d get to

making viniculture a real science.”

For Fait personally, the Negev vineyard success is a happy surprise. He was raised in a Jewish family from a grape-growing region in northern Italy. After being drawn to Israel and making *aliyah* in 1992, he visited the Negev and fell in love with it. He remembered its pull after completing his degrees in biology, ecology and plant biochemistry. A visit to the Blaustein Institutes confirmed his life path: to protect a valuable ecology, contribute to Israel’s future and devote his research to desert agriculture. But, reality has exceeded his expectations.

“It’s amazing!” Fait says. “Coming from Italy, I like good wine, and suddenly I can enjoy it here—something I never imagined when I first came to Israel.”

And he can look out on desert vineyards that are a living demonstration of how science can give new life to an ancient tradition. ■

THERMOELECTRICS: A NEW ROAD TO ENERGY EFFICIENCY

“IMAGINE LIGHTING A CANDLE and using its heat to operate an electrical device, without plugging it into the wall,” Dr. Yaniv Gelbstein says, explaining the aspirations of his research field: thermoelectrics.

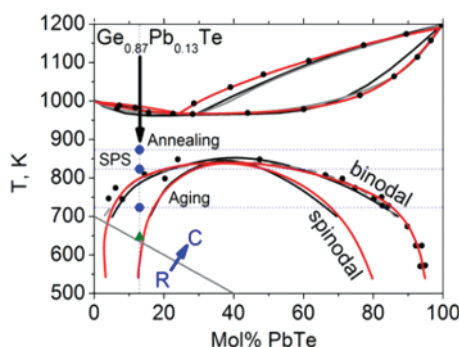
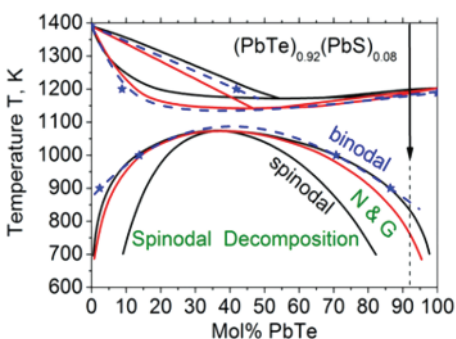
This relatively young discipline focuses on the interaction of heat and energy. While the work starts on the basic science level, major applications beckon.

Converting wasted heat into electric energy that will power engines more efficiently, for example, is high on the global agenda. This approach to

conserving energy could dramatically reduce the need for fossil fuel with all the attendant benefits.

Dr. Gelbstein heads the Laboratory of Thermoelectrics and the division of electronic materials at BGU’s Department of Materials Engineering. The lab has earned a reputation as one of the most important national centers of materials education and research in Israel. It collaborates with major players in the auto industry, including Rolls-Royce and Jaguar, as well as the Israeli military.

All eagerly await energy technologies for vehicles that are already partially on the drawing board.



Phase diagrams showing a miscibility gap—a situation where two constituents co-exist rather than mixing, a key to materials development for selected improved thermoelectric compositions investigated in the lab.



Dr. Yaniv Gelbstein

In addition to drawing on chemistry, physics and multiple engineering disciplines, Gelbstein, a member of BGU’s Ilse Katz Institute for Nanoscale Science and Technology, works on the nanoscale level to create new materials with properties he chooses.

While scientists in many areas of energy research are exploring nanostructuring, Gelbstein’s lab confronts a special issue. “When devices with nano-materials are subjected to very high temperatures—as in a car engine—the material’s nano-features tend to coarsen. So you may start with materials made of very small features, but with heat they become bigger and you lose the properties you want. We look for thermodynamic reactions that stay stable at high temperatures.”

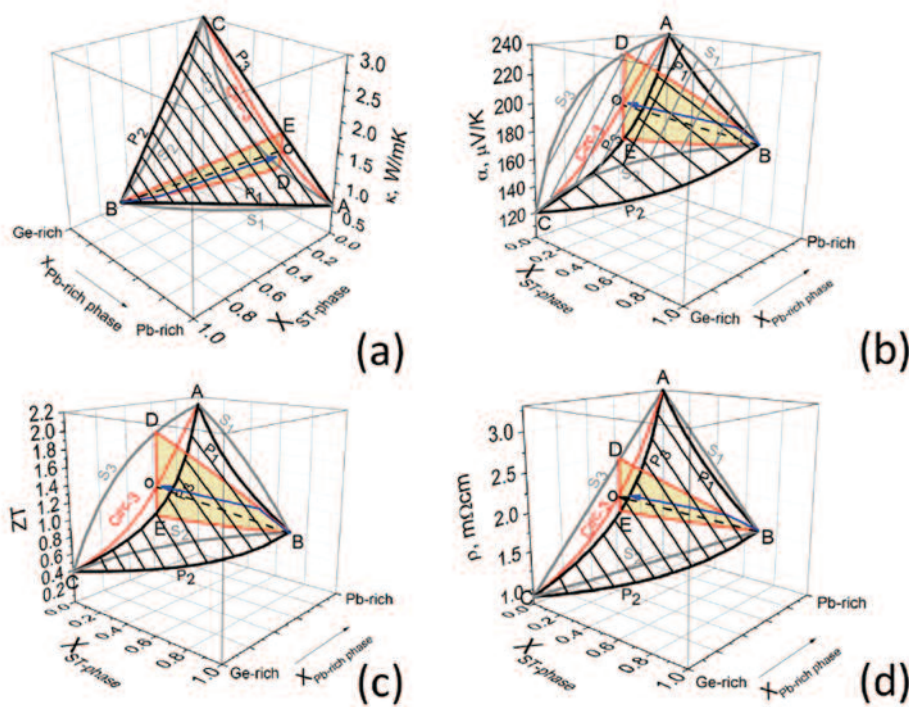
Recently, Gelbstein—whose labs are fueled by 20 enthusiastic Ph.D. and master’s students—found one such reaction. “It can give us fine patterns and high efficiencies, and stabilizes the nano-features at high temperatures,” he says.

Progress in energy research is

IT STARTED WITH SPACESHIPS

The thermoelectrics field launched in the 1960s, Gelbstein says, when both the United States and the then-Soviet Union created new systems to power spacecraft. They developed semiconductors constructed of totally different materials that produced large amounts of electricity from the heat generated by the decay of radioactive materials.

The systems were efficient and reliable, but plutonium is not well suited to everyday uses on earth. Researchers now work to develop novel materials to bring the benefits of thermoelectrics to practical devices.



Nano features of a new material generated by thermodynamic reaction. The research goals are to reduce thermal conductivity and increase efficiency so waste heat can be captured and used. A nanometer is one billionth of a meter, or .000000039 of an inch.

measured by an engineering term called “Figure of Merit,” which indicates a system’s relative efficiency.

“This value for materials commonly being used in practical applications, like car engines, exhibit thermoelectric properties with a value of one. Our novel approaches can give us a value of two, so our materials are twice as efficient. They’re the best thermoelectric materials in the world. Now we want to take these materials into practical devices, like cars.”

ACHIEVING ENERGY EFFICIENCY

How much more efficient auto engines can become varies on the specific engine and use.

Gelbstein notes that car engines waste 70 percent of incoming energy as heat, mostly expelled by their exhaust systems. So the potential is huge for minimizing energy loss through channeling heat into electricity to help run the car. Auto companies are already devoting

research and development efforts into operating more car functions electrically.

“They believe in this technology,” Gelbstein says. “You don’t have to convince them—they analyzed this option as viable, so they’re waiting for the technology.”

He estimates that given current findings and budgets, applications in practical devices are possible in as little as three years.

Another measurement scale to track progress is technological readiness level (TRL). The minimal level is one, while the highest figure, nine, represents a final product in use. Thermoelectric projects around the world—including BGU’s—are between the third and fifth stage, and bridging the gap will take a lot of work, Gelbstein notes.

He runs one lab devoted to synthesizing new materials and a second whose job is to characterize their mechanical, physical and electrical properties. A lot of trial

and error is involved, he affirms.

“Every day we have new questions about things we didn’t expect. After the material is characterized, it loops back for the experimental lab to improve or synthesize it again.”

In addition to the auto industry, interest in thermoelectric applications is strong from producers of marine vessels, locomotives, tanks, and satellites. The BGU group has academic partners in the European Union and the U.S., including Northwestern University and the University of Michigan.

Gelbstein considers himself fortunate to have established his expertise early, when thermoelectric specialists formed a small community in the world. He spent 15 years in the industry as a leading researcher in materials science before undertaking his Ph.D. at BGU, where he also obtained his B.Sc. and MSc. He stayed on to lecture and lead the thermoelectric group.

“I understood for years that there was something unique about the field, but couldn’t predict that countries would be so motivated to reduce dependence on fossil fuels. I was in the right place at the right time.”

BGU is similarly well positioned, he believes. “Israel is a small country and compared to the biggest universities, BGU is a small one, but it is well equipped and benefits from a special drive,” Gelbstein says.

“We work hard for results. We design and build methodologies by ourselves. Then our work is appreciated...and we get the funds to move ahead.” ■

Read more about green energy research in a special feature in the next issue of *Impact*. To learn more about BGU’s Energy Initiative now, visit www.bgu.ac.il/energy

REGENERATIVE MEDICINE AND STEM CELL RESEARCH

MAKING MIRACLES IN PETRI DISHES

THE BUILDING TO HOUSE

BGU's new Center for Regenerative Medicine, Cellular Therapy and Stem Cell Research is just taking shape, but the building blocks are definitely in place, says the Center's director, Prof. Smadar Cohen.

"We have bioengineering, the life sciences and medicine. In my lab, we've been working for many years to develop biomaterials and bioengineering strategies for advancing regenerative medicine, and other people are at work in their labs. But we haven't had a center. I totally believe that in order to collaborate—for people to work together—you need to share a facility, not sit in different buildings."

She and her colleagues are now planning and equipping the building that will centralize the University's strengths and foster interdisciplinary research in the field. The goal of regenerative medicine is as big as they come: to restore the function

of human tissues and organs, using approaches that effectively bridge basic science to clinical application.

Researching on the level of cells and genes, scientists see extraordinary hope for achieving better therapies

Scientists see extraordinary hope for achieving better therapies for intractable diseases that include heart defects, ALS, multiple sclerosis, diabetes, and Parkinson's.

for intractable diseases that include heart defects, ALS, multiple sclerosis, diabetes, and Parkinson's. Even more, the researchers aim to find cures, a word that they traditionally use with caution.

The Center is expected to position BGU as a leader in regenerative medicine and stem cell research and applications. This is an intensively competitive arena, and BGU moves into it with a unique advantage.

For three decades, BGU scientists and physicians have been studying the Negev's Bedouin population. As a result of tribal isolation, the Bedouins demonstrate a long history of intermarriage among relatives. They consequently suffer from a number of inherited diseases caused by genetic mutation.

Identifying these mutations has long engaged BGU researchers. It was the subject of BGU President Prof. Rivka Carmi's own pioneering research as a medical doctor in the 1980s. Since that time, data and samples have been steadily collected, adding up to a treasure trove of information for today's scientists.

The Bedouin are willing partners, reaping the benefits of improved health, treatment and genetic counseling.

Top: Dr. Rivki Ofir's image of induced pluripotent stem cells, made from skin cells, in a differentiation stage triggered by a cocktail of materials.

Monogenic diseases—those caused by a single gene mutation—are especially interesting for researchers because they are easier to study than diseases in which many genetic changes and environmental interactions play a role. As an example, Prof. Cohen cites a Bedouin family whose members fail to produce the enzyme necessary to metabolize iron: a single transformed gene is responsible.

“The iron accumulates in their brains. The result is very similar to Alzheimer’s disease,” Cohen says. “If we look at the disease features—the mechanisms and thermodynamics—maybe we can find ways of inhibiting the disease or can correct the gene, or add it in if it’s missing. This may also afford important insight into understanding and treating Alzheimer’s.”

Such results are in the future, Cohen emphasizes. Right now, much of the emphasis is on identifying genetic defects and working to understand how they develop in the organism. This is where stem cells come in.

CREATING NEW STEM CELLS

In places including the United States, the progress of research based on stem cells—

the original unformed cells that differentiate to constitute all the body’s organs and tissues—has been slowed by ethical concerns about using human embryos as a source of the cells.

In 2012, a Japanese scientist, Shinya Yamanaka, won the Nobel Prize for creating induced pluripotent stem cells (iPSC): basic cells that can differentiate into various specialized cells. Dr. Rivki Ofir, a senior research associate at the Center, bases her work on this breakthrough and leads it in new directions.

“My main purpose is to reprogram patient cells into embryonic stem-like cells and then instruct them to become a cell related to a disease,” explains Dr. Ofir.

“These cells carry the patient’s genetic information and can become any of the body’s cell types. This is helpful as many cell types are not readily accessible from patients. iPSC cells, when turned into adult cell types, play out the disease in a manner similar to that of cells in the patient.”

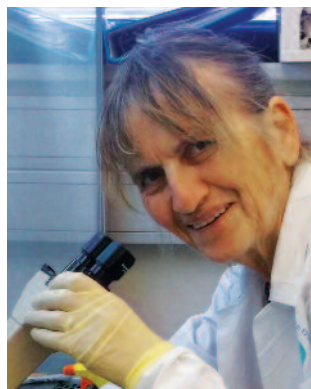
For example, skin cells from a person with a congenital heart disease can be reprogrammed to become embryonic cells, and then instructed to become heart cells. These cells are used to model the disease in a Petri dish and are then comprehensively studied to find underlying causes.

Patients, hoping a family disease can be remedied, are happy to provide samples, Ofir says. “We follow the protocol generated by Yamanaka and use a manipulation to bring the cells back to the embryonic state, the starting point of a human being when the egg and sperm are together.”

The process centers on introducing a particular kind of virus into the cells, but Ofir and her colleagues are experimenting with various chemicals to accomplish the goal.

To date, what she finds most exciting is seeing the heart cells she created.

“We started the whole process from nothing—took skin cells, reprogrammed them to behave like stem cells, and then used the protocol to instruct them to become heart cells. We can see them beating in the Petri dish!”



Dr. Rivki Ofir



Studying the genes that are responsible for a disease in a Petri dish helps researchers figure out how the mutation dictates the defect and enables them to look for a new drug remedy. Investigating monogenic diseases, common to the Bedouin, can lead scientists to extrapolate that understanding to the mechanism of diseases like ALS, where the specific mutation is not known.

"It may seem like no big deal to study a unique disease in an isolated tribe in the desert," Ofir explains, "but you may learn something that can be important to the general population if there's a similarity between the diseases."

"Doing regenerative medicine in a dish can teach us about dimensions and structure. You learn about the signals required for the organism to survive. And we work for our second goal: to use the cells for drug discovery. Using human cells offers many advantages."

"For example, when you use mice for clinical studies with a heart drug, there are big problems because a mouse's heart is different from a human's. A drug might be good for mice, but kill people. So we try to model the disease in the reprogrammed human cells for better preclinical studies."

Ultimately this disease-in-a-Petri dish approach may empower scientists to "correct" genetically defective heart cells, and then transplant them into that person's body to make new heart muscle. A major benefit of this procedure is that it would not trigger the auto-immune responses that often lead the body to reject a transplant.

"But much needs to be learned," Ofir says.

Her own contribution is to create as many disease models as she can to support the study of neurological,

muscular, metabolic, musco-skeletal diseases, and more. "I dream of a freezer full of fibroblasts, skin or blood cells from many different patients, which we can then reprogram to produce pluripotent stem cells. Then we can start to learn how the mutated gene leads to the disease. That's my mission!"

The work could not be done without the new Center, Ofir states.

"We couldn't ask these questions on the level of the stem cell before, and understand why the disease happens. The new methods will help us make huge progress in understanding the causes and looking for potential cures."

In addition to creating heart cells, researchers are making great strides in producing pancreatic cells, and Ofir is excited about working with epilepsy. She is also looking toward collaborating with other Center scientists on Alzheimer's research.

THE MYSTERY OF BLOOD SYSTEM STEM CELLS

Dr. Roi Gazit is an expert on hematopoietic stem cells—cells that reside in the bone marrow and sustain production of all blood cells: platelets, lymphocytes, red and white blood cells.

"These are stem cells that are quite different from embryonic stem cells and we have them within our bodies as normal adults."

Dr. Gazit's work involves isolating these cells, manipulating them genetically and differentiating them.

Understanding their specific properties can become the basis of research, and potential therapy, for untreatable blood diseases and closely relates to the development of treatments for blood cancer.

His expertise is considered so valuable by those shaping the new Center that he was specifically "targeted" for recruitment.

"I'm happy to be recruited," he says, but acknowledges a long courtship.

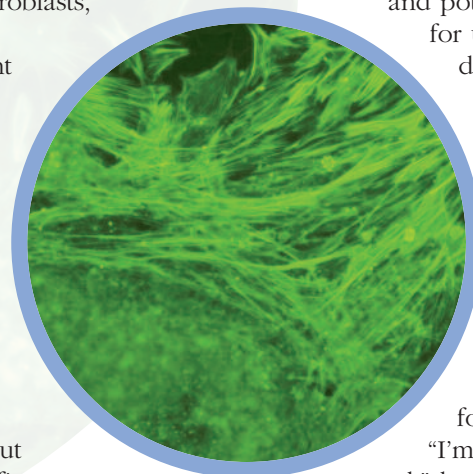
The BGU scientists spotted him while he was on staff at the Harvard Medical School and talked him into a visit when he was in Israel for family reasons. "The University impressed me so much, the people here are just amazing and the atmosphere was so positive, I just couldn't resist." Gazit joined the faculty a year ago and opened a new lab.

The hematopoietic stem cells that reside in bone marrow have been studied for 50 years, he explains; uniquely, they can be transplanted, so they have been used for clinical treatment that has saved many lives

over the years. However, this strategy demands precisely correct matches between bone marrow donors and recipients, a greatly limiting factor.

"We dream of understanding adult stem cells to a level that enables us to make them stronger and more capable of transplant, and we also aim to generate them from a patient's own cells," Gazit says.

"If you can reprogram blood cells back to the adult stem cell state, you have an unlimited resource ready for clinical utilization. That's a big dream—but we already



Dr. Roi Gazit

Left: Prof. Smadar Cohen, second from the left, with students in her research lab.

This page, top: Stem cells in differentiation stage from Dr. Ofir's lab.

ADDITIONAL ACTIVITIES AT THE CENTER FOR REGENERATIVE MEDICINE



PROF. SMADAR COHEN, Center director and member of the Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, developed a strategy for regenerating cartilage specifically for the treatment of patients suffering from either osteoarthritis or sport-related injuries. The strategy is based on augmenting reparative processes in the body, is acellular, and has proven effective in pre-clinical studies.

A patent is pending and commercialization is the next step.

Prof. Cohen's earlier work creating an algae-based "scaffolding" system to remedy damage following a heart attack is now in final clinical trials in the U.S., Europe, Australia, and Israel. A New Jersey-based company, Ikaria, is responsible for clinical trials and has announced that results will be available this year.



DR. ELI LEWIS, head of BGU's Clinical Islet Laboratory and a member of the Department of Clinical Biochemistry and Pharmacology, has identified a common anti-inflammatory drug (alpha 1 antitrypsin or AAT) that could reverse diabetes in recently diagnosed patients. Due to low supply, his team is currently working on a genetically engineered version of the protein-based drug. AAT also provides protection during stem cell therapy and transplantation, and stimulates beta cell regeneration.



DR. RACHEL G. LICHTENSTEIN, of the Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, is working to develop therapy for ALS based on glycan macromolecules that enable the cells in the body to communicate with each other. This research won a major infrastructure award from the Israel Ministry of Science and Technology.



PROF. ALON MONSONEGO, of the Shraga Segal Department of Microbiology, Immunology and Genetics, developed a T-cell therapy approach to treat Alzheimer's disease. This therapy activates a neuro-protective signaling process in spite of the high level of immune deficiency in a typical Alzheimer's disease patient.

A patent application is pending, moving toward commercialization of the technology.

have reason from mouse studies to believe we can do it."

The research involves advanced molecular biology, cloning genes, studying cells in tissue cultures, and doing real transplantations in mouse models.

"It is still largely unknown why only very rare cells in the bone marrow have the power to generate all blood cells, or what limits other cells from doing so," Gazit says. "The vision is to first understand the basic biology—what makes the bone marrow stem cell different from others at the molecular level—and then develop new insights for treating patients."

Reprogramming a blood cell into a hematopoietic stem cell will also have a direct impact on understanding and treating leukemia, where the healthy cell-making capacity is "hijacked" to create the disease.

Gazit is also interested in the immunology aspect. The hematopoietic stem cells make virtually all the body's immune cells, as well as the blood cells, and there is mutual dependence between the two, Gazit explains.

"Somehow there's feedback between the stem cells and immune cells. It makes sense that the body has a regulator mechanism to tell the source producer when more immune cells are needed, or that there are too many. One great interest is to uncover the activity and relationship of the stem cells with the whole immune system. This will affect the treatment of any infection, once immune cells can be produced for specific clinical needs.

"Understanding the relationship between the immune system and stem cells is a long-term dream—something I hope to be busy with the rest of my career," Gazit adds. "Working together at the Center rather than in single labs, we'll be able to accelerate our scientific progress and turn it into useful treatments all along our research journey."

Researchers agree that concrete results of their work may materialize within five to 10 years. Multiple avenues are being pursued, says Prof. Smadar Cohen. "Each strategy has advantages and disadvantages. You can't always tell which is best, so it's better and more interesting to work with different ones." ■

THE ENTREPRENEURIAL SPIRIT OF BGU



MANY RESEARCH UNIVERSITIES

today offer resources for entrepreneurs, but BGU's level of commitment stands a cut above the rest.

The Bengis Center for Entrepreneurship and Hi-Tech, housed in the Guilford Glazer Faculty of Business and Management, is open to all the University's students and faculty members. The Center proactively encourages use of its resources and helps those who seek its services to think like business leaders.

"We see our role as an important one for the whole university, connected to all departments," says the Center's director, Prof. Dafna Schwartz. "We want to educate all BGU students in innovative thinking—whether they're studying business, engineering or education—and give them the competitive



advantage of entrepreneurial skills."

This philosophy is essential to Israel itself, and most particularly to the Negev, observes Prof. Amos Drory, BGU's vice president for external affairs and incumbent of the Ernest Scheller, Jr. Chair in Innovative Management. "When I became dean of the business school 15 years ago, it was just beginning. I asked myself, how can we be relevant to the times, beyond just the regular curriculum?"

1. Prof. Amos Drory (with mike) and Arnold Bengis at a "Marketplace" event during a Board of Governors Meeting 2. A student presenter at TedxBGU, the University's version of the famous lecture series 3. A student project showcased at the 2013 Innovation Unconference 4. Prof. Dafna Schwartz, left, interviews Cherie Blair on women's entrepreneurship

Drory answered his question by working to fill a void in Israel's business community. "In the late '90s, Israel was beginning to make a name for itself as a startup nation that was producing very successful technology ventures. But, while Israelis were very good at coming up with brilliant ideas, we were not so good at the process of turning those ideas into products and businesses. It requires a different set of skills and mindset; I thought we could help fill that gap."

When Drory met Arnie Bengis, for whom the Center is named, he found an enthusiastic partner whose

DROR'S STORY: CIVIL SERVANT TO BUSINESS OWNER

In 2006, Dror Matalon was an MBA student at BGU, and also a long-term employee of a civil service security organization.

"I took a course with Prof. Schwartz and that was the beginning," he says. "I was inspired to retire from my position and start a second career as an entrepreneur two years later."

He established a group that works with high-tech brain research, and later started a company called Inovytech with two friends he met at the Bengis Center. The company produces devices that nonmedical people can use on the spot in various emergency situations.

"We checked the needs and were surprised to see no good solution on the market, so we decided to start the project. We got funding the first year from a program that supports research enterprises. Then we raised money from investors.

I'm flying to Japan and Korea to sign distribution contracts for two products.

"A lot of people have dreams," 47-year old Matalon continues. "But they can't always bring them to reality. The Bengis Center helped me feel we could do it and showed me the first steps. I always had entrepreneurial ideas, but how to succeed in the business world wasn't obvious."

Today, Matalon lives and works near Beer-Sheva, which he would not have considered before his BGU experience and business building. He sees the region's future materializing right now. "You can see just by looking—the high-tech center being built near BGU. A lot of good entrepreneurs, great companies—all the new activity is here in the Negev."

generosity brought the idea to reality. Since then, Bengis has remained a close partner in planning and strategizing the activities of the Center to meet its goals.

Today, the Bengis Center teaches courses, presents dozens of lectures throughout the academic year and contributes to the curriculum of the Guilford Glazer Faculty of Business and Management. It offers accessible consulting services for all BGU students and has helped many of them establish businesses.

Opening its doors to the community, the Center provides social opportunities for informal networking, and links new business adventurers with investors, industry, collaborators, and potential customers.

The Center also runs major events, such as business plan competitions; a Global Entrepreneurship Week that draws people from all over Israel; and an Innovation "Un-Conference," which in its fourth year drew 3,000 participants and 130 presenters.

This year the Center sponsored the first Google "Hackathon," where students came up with new apps to compete for cash rewards. BGU teams

placed in the top three and each received \$20,000 and the opportunity to compete in the second stage, an extensive global competition.

The Bengis Center has also sent small groups of students overseas to foster international thinking and

"We want to educate all BGU students in innovative thinking and give them the competitive advantage of entrepreneurial skills."

— PROF. DAFNA SCHWARTZ

make new business connections for Israel—one such group recently spent time in Brazil, and a joint project with Simon Fraser University in Vancouver is in the works.

CREATING NEW BUSINESSES

Yossi Shavit, the Center's project manager, meets one-on-one with 200

to 400 students each year who come with ideas.

He talks to them about marketing, finance, strategy, and the problems they might face. He provides data, tells them about courses and lectures that can help them, shows them how to write business plans, and helps them practice presentations.

"We help them understand the opportunities and may get them a mentor in the industry. Some come to understand the dream is not so good," Shavit says. "The beautiful part is that while 30 to 50 percent don't keep the original dream, they come up with another idea because they see through new glasses and notice opportunities other people don't.

"Twenty to 40 new businesses start here each year and their survival rate is excellent," he says.

Shavit credits the Bengis Center for changing his own life. He was an MBA student in 2004 when he brought an idea to the Center and connected with Prof. Schwartz. He proceeded to build a consulting service that helps entrepreneurs. Later, he built a textile-related

Continued on page 31

TRAINING ULTRA-ORTHODOX PSYCHOLOGISTS

WHILE PROF. DAVID LEISER was pursuing his own private Talmudic studies six years ago, a study partner connected him with Adina Bar-Shalom, founder and president of Jerusalem's *Haredi* College. The well-known and determined educator was looking for someone at a university willing to open a psychology program for ultra-Orthodox students.

Leiser, at that time chair of BGU's Department of Psychology, was intrigued. "I thought it extremely important to train *Haredi* [ultra-Orthodox] psychologists," he says. "Not just because it's an avenue for them to make a living, but because there's a crying need for them in their community."

"Many *Haredi* live in psychological distress and could be helped, but no *Haredi* professionals are being trained in Israel. Some are imported from the United States, but their world view and culture is very different. In psychology,

it's important to have someone conversant with your world."

Leiser's suggestion that BGU initiate a new program drew strong support from University President Prof. Rivka Carmi, who sees higher education for

Israel's ultra-Orthodox community as vital for the future of the country.

"College education clearly could help the *Haredi*, whose level of poverty is escalating along with their population. It would also be good for Israel, providing quality contributions to the work force and economy," she says.

But bringing the idea to life proved an uphill battle on many levels.

Funding was sought and obtained from the Ministry of Education. Accreditation for the atypical program was established. Concerns about whether the degree's value would be diminished were addressed.

"We had to convince all the different University functions that the *Haredi* would meet the same high standards

as everyone else, that we wouldn't be giving our prized degree away at a discount," Leiser says.

And support of at least some *Haredi* rabbis had to be secured. There were issues about finding and selecting candidates, the complex logistics of creating a program in line with the community's traditions, and much more. All were resolved.

The big academic stumbling block was an educational disparity. Typically, *Haredi* men leave high school several years early for religious study, and lack virtually all math, science and English skills. It was determined that to qualify, they needed two years of preparatory study at Jerusalem's Open University, which offers supervised self-study programs. In contrast to men, most *Haredi* women finish high school, so they need only one year of pre-college study.

Obtaining acceptance from the isolated community presented another set of hurdles. Many *Haredi* believe that education will take young people away from their world.



Prof. David Leiser

Top: Students at the *Haredi* College, where BGU's psychology programs are taught.



"They were afraid their identity would be compromised," Leiser says, "that they would be forced to become part of a general group. With my partner, Prof. Amnon Rav-Krakovitzin (now head of the Department of History), I had to navigate many delicate situations to think through a program in a way people would be happy with."

One non-negotiable requirement: entirely separate programs for men and women. *Haredi* custom also demands that men be taught only by men, and some subjects for women must be taught by women.

HOW IT WORKS

The undergraduate program in educational psychology is based at the *Haredi* College in Jerusalem and is administered by BGU, which hires the teachers—now a staff of about 30, including teaching assistants. *Haredi* men and women who successfully complete their preparatory study can apply for the bachelor's degree program. Of the 120 students now enrolled, about three quarters are women, because they need less time for the preliminary preparation and have a much lower dropout rate.

"The program is an exact copy of the one at BGU," Leiser says. While learning standards are identical to

BGU's program, the *Haredi* benefit from small classes: 20 to 25 students in Leiser's own second-year class, vs. 300 at BGU, for example.

Students are given more personal attention and support. Specific aspects of *Haredi* lifestyle are accommodated: the girls come straight from high school and are younger than other BGU students. Many are engaged by



the first year, marry and begin having children. The program offers an on-site childcare center.

Curriculum challenges arise. "For example, do you teach evolution? What do you say? You can't just leave it open. We decided to teach it, as it is taught on the main campus. But we tell them: 'this is the most widely accepted theory, but you don't have to accept it—you just have to know it.'"

A book on personality disorders included graphic depictions of sexual deviation. "We covered the pictures.

The first class of *Haredi* students received their bachelor's degrees in psychology from BGU in March. Standing: Fourth from left, Prof. David Newman, dean of BGU's Pinchas Sapir Faculty of Humanities and Social Sciences; far right, Profs. David Leiser and Amnon Rav-Krakovitzin, program founders. Seated: Fourth from left, Adina Bar-Shalom, president of *Haredi* College.

No need to make people feel acutely uncomfortable, but the content was taught," Leiser says.

A rabbi on staff at the *Haredi* College helps students resolve any conflicts between what they're learning and their religious beliefs.

The ultra-Orthodox students' accomplishments are measured precisely on par with those of other BGU students. The same exams are given in both locations, at the same day and hour. BGU proctors are taxied in to Jerusalem to oversee the test taking, and the same teaching assistants grade both sets of exams without knowing which students wrote them.

"Amazingly, they do about as well in the courses and also on the graduate admission exam given by the national testing service," Leiser says. "They are very hard working and very devoted students, both the men and women. They study hard and it shows."

"It's extremely gratifying to me to have helped bring this about," Leiser says. "It really works!"

The first group of 11 girls started their graduate degrees this year. They will take the mandatory courses that all BGU psychology students take, plus unique courses such as “Educational Psychology in the *Haredi* Community” and “Foundations of Family Therapy.”

WHAT IS GAINED, WHAT IS LEARNED

Prof. Leiser found himself surprised by how appreciative the *Haredi* students are. “They express gratitude constantly. At breaks, there’s always a glass of water or cup of coffee for the teacher; nobody brought it but there it is.

“The teachers find the interaction striking, and enjoy the eagerness of the students. They, too, thank me all the time. And everyone—students and teachers—realizes people are not very different after all, and this encounter is very healthy.”

Leiser believes the psychology programs open many doors. “The *Haredi* are fascinated by the external world but are afraid of it. If you can take a *Haredi* girl into college and educate her, and other people see that no effort was made to change her or remove her from their world, this is bound to have a huge impact on the entire *Haredi* community. The men also see they can be respected professionals and belong to the world without losing their identity. That’s the message.”

It is assumed that all the *Haredi* women graduates will work in their communities and bring their skills to them. He sees signs that the community is becoming more interested in the psychology programs and in education generally.

“Every man and woman we teach is an ambassador to a large number of people,” Leiser says. “Each will bring an opening to academics, science, the wider world, and show the community

Continued on page 31

IN HER OWN WORDS: ONE STUDENT’S VIEW

A *Haredi* psychology undergraduate student in her third year asked not to be identified, but generously answered questions about the program and its place in her life.

What do you like best about the psychology program?

The program integrates psychology with education and well-being. This is meaningful for us, because the education gives us tools for another hat that we wear as parents.

In terms of the teaching faculty, the team is perfect. The lecturers know the material. They are patient and responsible. They are very caring and want us to become wise and successful. This is an environment of acceptance, relationships and cooperation.

To a great extent the timetable is fitted to our needs and lifestyle as religious women. For example, we never have an examination on a fast day. The lecturers take our lives into account and are flexible in setting dates to submit work. They also endeavor to respect our way of life, expressed through appropriate dress, not sending e-mail on holidays, and at times modifying pictures and wording [of the course material].

What is important for people to know about the program?

It’s important to us that from a professional point of view, this program doesn’t lower the standards at all. We learn at a high level, and the demands on us are equal to a standard student’s. There is a serious environment of learning in our classes. The students come here with a lot of motivation to learn and succeed.

What special services do you value?

The accessibility of the nursery is very helpful. During class a mother doesn’t have to worry about her baby, so she can relax and learn more. And in general, the fact that the class is small inspires warmth and confidence. It makes it possible for

us to understand the issues in depth.

And also, the rabbi is at the college so if we need some help with anything, he is there for us.

Has anything you’ve experienced especially surprised you?

I am surprised how the curriculum applies to real life and integrates with it. During the lessons we enjoy interweaving verse and the sages’ sayings according to the issues. We see that there is a lot of overlap between what we’re learning and the values we were taught. It is interesting and exciting to see that a lot of the discoveries and findings of research were said many years before in the *Torah* and *Midrash*.

Do you have a plan for the future?

Looking back, I can say that my choice of learning was one of the most significant decisions in my life. I am so happy with this, both from the professional and social aspects. When I began the B.A., I knew that I was interested in psychology and that there were different areas to focus on within the discipline. As I continue to learn I understand in depth the differences, and I see that the research area is very interesting to me, so currently I want to turn to that.

How do your family and friends feel about what you are doing?

My family and friends are very supportive. One way they express it is by giving me time to learn, and financial help. It’s very important to my parents that I learn and succeed. When I began to study at the college, it wasn’t common to do so, but people still respected me. Now it’s becoming more common in my community.

REGIONAL NEWS

GREAT LAKES

Larry Goodman, *Honorary Chair*
Steven Franklin, *Director*
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greatlakes@aabgu.org

BGU SCHOLARS VISIT THE MIDWEST

In Milwaukee, Mark Brickman and Jason Gottlieb, a member of the first cohort of AABGU's Zin Fellows, hosted a presentation by Prof. Eilon Adar, director of BGU's Zuckerberg Institute for Water Research, for a group of new supporters. Prof. Adar spoke about the Israeli approach to overcoming water scarcity in the Middle East.

He gave a similar talk to supporters in Chicago at the Sidley Austin law firm. Thanks are due to Mark Raven for hosting this event.

Prof. Yuval Golan, director of the Ilse Katz Institute for Nanoscale Science and Technology, gave an overview of the latest nanotechnology innovations at BGU over breakfast at



Mark Brickman, Prof. Eilon Adar and Zin Fellow Jason Gottlieb in Milwaukee

the Illinois Science and Technology Park in Skokie. The event was hosted by Michael Rosen.

Dr. Aaron Fait, of BGU's French Associates Institute for Agriculture and Biotechnology of Drylands, spoke about "Better Crops from Fewer Drops" at the home of Karen Gray-Keeler and Tom Keeler.

Dr. Fait researches ways to advance desert agriculture using cutting-edge science, with a particular focus on the cultivation of wine grapes (see page 10).



Event host Michael Rosen with Prof. Yuval Golan and Steve Franklin, regional director, at the Illinois Science and Technology Park



Ernie Simon, national board member; Steve Franklin, regional director; Nissim Neshet, BGU alumnus; BGU's Dr. Aaron Fait

GREATER FLORIDA

Greater Florida Advisory Committee

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Elise Dolgow, *Director*
Reva Feldman, *Associate Director*
(561) 705-0117
florida@aabgu.org

TALKING NANOSCIENCE IN SOUTH FLORIDA

AABGU's Greater Florida Region welcomed Prof. Yuval Golan, director of the Ilse Katz Institute for Nanoscale Science and Technology.

Thanks to Lyon (Lenny) Roth, national board member, for hosting a



New Founders and Living Legacy Society members George and Phyllis Brindis with Prof. Yuval Golan

meeting in Aventura and to Mark List, a member of AABGU's Zin Fellows first cohort, for hosting in Boca Raton.

Prof. Golan also spoke at a first-time AABGU event at Indian Spring Country Club in Boynton Beach, hosted by Harriet and Mervin Hartman.



Gary Moss; Prof. Yuval Golan; Lenny Roth, national board member; Joey Givner; Billy Joel, AABGU and BGU board member

This event honored new Living Legacy Society members George and Phyllis Brindis who are also new Founders; Mel and Jean Edelman; Lionel Fendell; Lucille Goldberg; and Mel and Iris Katzman.

Continued on next page

LEARNING ABOUT BRAIN SCIENCE WITH NEW AND LONGTIME FRIENDS

Prof. Alon Friedman, chair of BGU's Zlotowski Center for Neuroscience, visited the region and spoke at Edgewater Estates in Boca Raton, Harbour's Edge in Delray Beach and The Chesterfield in Palm Beach. In West Palm Beach, he spoke at Breakers West Country Club and The Traditions of the Palm Beaches.

New members of the Asarot Society, donors who have contributed ten gifts or more to AABGU, were recognized at several of these events.

MAZAL TOV AND THANKS

Congratulations to Dr. Rob Colton, incoming chair of the Boca/Delray Advisory Committee, and thanks to Joel Reinstein, national board member, for chairing the past four years.



At the AABGU Village at Sede Boqer: Joel Reinstein, national board member; Dr. Andrea Colton; Prof. Pedro Berliner, director of the Jacob Blaustein Institutes for Desert Research; Dr. Rob Colton

GREATER NEW YORK

Lite Sabin, *Chair*
Kevin M. Leopold
Executive Director-Northeast
Jay Leipzig
Senior Philanthropic Advisor
Diane Romirowsky
Major Gifts Director
Dana Ben-Benjamin
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INTRODUCING NEW FRIENDS AND EXPANDING THE AABGU CIRCLE

The Greater New York Region recently kicked off an exciting new lecture series, "Negev 101: Shaping the Future of Israel." The program was the brainchild of Tony Felzen, a new national board member, who was inspired by his participation in AABGU's Zin Fellows Leadership Development Program.

Tony wanted to share his experiences of learning from BGU's talented and inspiring professors with colleagues and other professionals in the New York area. Under his guidance, the Greater New York team created a "mini Zin," where a select group of individuals gathered for three informal discussions with some of BGU's leading faculty. The goal was to examine how BGU is changing the face of the Negev, Israel and the world.

Most of the participants had little knowledge of BGU and the Negev.



Carol Kimmel; Neil Small; Jay Leipzig, senior philanthropic advisor; and Sheila Schlosser at a recent presentation by BGU's diabetes expert, Dr. Eli Lewis

The first session, with Prof. Ilan Troen, provided an overview of the Negev, emphasizing its history and why it was so important to David Ben-Gurion.

The second session, with Prof. Eilon Adar, focused on innovations coming out of BGU, and how the University is developing water technologies that are making a difference in the Negev and beyond.

The final session, led by Prof. Yuval Golan, focused on the Negev and how it is a strategic asset for Israel's future in the area of medical advancements based on nanotechnology.



Diane Romirowsky, the region's new major gifts director

The programs were a huge success; many participants asked when the next Negev 101 series would take place.

The Greater New York Region is also pleased to announce the addition of Diane Romirowsky, the region's new major gifts director. She has worked extensively in fund development for Israel-based and Jewish educational organizations, most recently as Northeast development consultant for the United States-Israel Binational Science Foundation. Diane also served for 13 years as New York development director at the American Technion Society.

GREATER TEXAS

Stephen Breslauer
and Arline Guefen, *Chairs*
Stephen Friedman, *Vice Chair*
Ellen Marcus, *Austin Chair*
Deborah K. Bergeron, *Director*
(713) 522-8284
texas@aabgu.org

LEARNING WITH AABGU

BGU's diabetes expert, Dr. Eli Lewis, visited the Greater Texas Region and spoke about his research and the U.S. clinical trials for his breakthrough type 1 diabetes treatment. Dr. Lewis also briefed doctors at the Texas Medical Center about what his research could mean for patients selected for the trials.

Neal Myerberg, AABGU's planned giving advisor, spoke at the Houston Jewish Federation and the Houston Jewish Community Foundation about "Ways to Make Tax-Advantaged Charitable Gifts." Myerberg also gave an informative presentation at the Greater Texas regional board meeting.

Prof. Eilon Adar, director of BGU's Zuckerberg Institute for Water Research, met with state officials who are exploring the possibility of estab-

lishing desalinization plants on the Texas Gulf Coast and in the Rio Grande Valley. A dinner reception for Prof. Adar was held at the home of Elizabeth and David Grzebinski.

BGU Prof. Alon Tal shared his expertise on Judaism and environmentalism at Austin's Tapestry of Jewish Learning in January. Karen and David Brenner, who recently returned from their first trip to BGU, hosted a dinner reception for Prof. Tal in their home.



David and Elizabeth Grzebinski; Prof. Eilon Adar; Arline Guefen, regional co-chair

THE EXTRAVAGANZA CELEBRATES ITS BAR MITZVAH

The 13th Gourmet Kosher Extravaganza, held March 18, was a huge success. Chaired by Linda Jayaram and



Honoring the family behind Houston's *Jewish Herald-Voice*: Vicki Samuels Levy; Laurence S Samuels; Jeanne Samuels; Matt Samuels; Michael Duke. The framed photo is of Joe Samuels (of blessed memory) who passed away in 2011 at the age of 95.

David Barish at the Westin Oaks Hotel, the event was packed with over 400 foodies.

The honorees were three generations of the Samuels family—the family behind Houston's *Jewish Herald-Voice*.

The Samuels humbly accepted the AABGU David Ben-Gurion Leadership Award in recognition of their dedication and commitment to the Houston community, their integrity and excellence in reporting the community events that bind us together, and their early and ongoing support of BGU.

MID-ATLANTIC

Jack R Bershad, *Regional Chair*
Connie and Sam Katz
Philadelphia Chapter Chairs
Marla and Dr. Robert Zipkin
Philadelphia Chapter Vice Chairs
Claire Winick, *Director*
Andrew L. Demchick, *Associate Director*
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DOUBLE THE DOLLARS: MAXIMIZING CONTRIBUTIONS TO BGU

Through the generosity of the Roberta and Ernest Scheller, Jr. Family Foundation, AABGU's Philadelphia Chapter has the opportunity to "Double the Dollars" of contributors

Continued on next page



Over 250 people came together to honor "Women of Distinction" at the 2013 Philadelphia Chapter annual community-wide tribute brunch in November. Key figures to the success of this event include (standing) Doron Krakow, AABGU executive vice president; Dr. Paula Kabalo of BGU's Ben-Gurion Research Institute for the Study of Israel and Zionism; honorees Dr. Lori Goldstein, Lisa Scheller, Jane Golden; and Sam Katz, Philadelphia chapter co-chair. Seated are Tribute Chair Sherrie R. Savett, Esq., president, Jewish Federation of Greater Philadelphia; and honorees, Eileen Heisman, Marilyn Birnhak and Lynne Abraham, Esq.

who are 60 years-old or younger and donate a minimum of \$1,000. A donor can designate his or her gift to a specific project at BGU, and the match will support that project.

On the heels of the first successful half million dollar matching fund backed by an anonymous



Ernie and Roberta Scheller

Philadelphia benefactor, Ernie Scheller, on behalf of the family foundation, stepped up to continue this program. The goal of this \$500,000 matching gift fund is to stimulate younger donors to give.

A prominent business leader and a nationally recognized philanthropist, Ernie is a member of BGU's Board of Governors, a national vice president of AABGU, and a past Philadelphia Chapter chair. Ernie and Roberta are members of the Ben-Gurion Society and Living Legacy Society.

Their daughter, Lisa Scheller, and son-in-law, Wayne Woodman, also part of the family foundation, are major donors and chairs of the Zin Fellows Leadership Development Program. AABGU is fortunate to



A parlor meeting was hosted by Pittsburgh business and philanthropic leader Jim Rudolph and his wife, Louisa, in their Squirrel Hill home, featuring Prof. Oren Regev (center) of BGU's Ilse Katz Institute for Nanoscale Science and Technology.

benefit from the family's leadership and deep commitment to the future of BGU, the Negev and Israel.

NEW ENGLAND

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CHEERING ON THE BGU TEAM AT A BIOTECHNOLOGY COMPETITION AT MIT

The New England Region welcomed a team of BGU's most talented and driven students from the Department of Biotechnology Engineering in November when they participated in the International Genetically Engineered Machine (iGEM) competition at MIT.

After initial support from Prof. Yosi Kost, dean of BGU's Faculty of Engineering Sciences, Prof. Smadar Cohen, of BGU's Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, became the team's faculty advisor. She traveled with the 12-student team and provided expertise and support.

The iGEM competition is one of the premier collegiate academic competitions in the world, with 216 participating teams from North and South



BGU's iGEM team in their lab at the Marcus Family Campus in Beer-Sheva

America, Europe, Asia, and Australia. It's comprised of two stages beginning with five regional competitions around the world, culminating in a world championship in Cambridge.

The BGU team created a self-destructing mechanism that can be introduced to any bacteria for safe and extensive use in a range of applications.

The team's vision was to create a biological time bomb in the form of synthetic bacteria with a self-destruct mechanism.

"If someone is a little sick from a 'bad' bacteria, we envision a two-week treatment period administering a probiotic pill containing special, genetically engineered 'good' bacteria,"

Continued on next page

REGIONAL NEWS

explains team member Gal Margolis.

“When the pill is initially taken, it allows ‘good’ bacteria to settle in the patient’s body, creating antibiotics for exactly the desired time. After two weeks, the ‘good’ bacteria finishes its job and destroys itself without a trace. The program is like an antivirus for the body.”

This impressive group is the first team from BGU to enter the iGEM competition, and the first Israeli team ever to advance to the finals. The students also earned a silver medal, as well as winning Best Movie and Best Presentation at the European Jamboree in Lyon, France.



Brian Lefsky; Amy Klein; Regional President Max Schechner with his wife, Marge, at Temple Emanuel following a presentation by Dr. Paula Kabalo, director of BGU's Ben-Gurion Research Institute for the Study of Israel and Zionism

NORTHWEST

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Daphna Noily, *Director*
Judith Alterman, *Associate Director*
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GREAT CHEMISTRY

Lorry Lokey has been passionate about higher education for decades. After selling his company, BusinessWire, he decided to make a “concrete” impact upon the institutions he cares about most. Now several buildings at prestigious universities carry his name. BGU will join the list with the construction of the Lorry I. Lokey Chemistry Building on its Marcus Family Campus in Beer-Sheva.



Ben-Gurion Society member Lorry Lokey receives a certificate of appreciation from Prof. Amos Drory, BGU's vice president for external affairs, at a February dinner reception in Sonoma.

A SPECIAL CONNECTION TO THE NEGEV

There's a special place in Marjorie Offer's heart for BGU and the Negev. Her late husband, Dr. Daniel Offer, fled Berlin for Palestine during the rise of Hitler, and in 1948 served in the *Palmach* unit that liberated Beer-Sheva. Daniel became a renowned psychiatrist specializing in the health and well-being of youth. When Daniel passed away, Margie established an endowment fund that supports BGU's

Continued on next page



Left: Marjorie Offer visits the Monument to the Negev Brigade overlooking Beer-Sheva during her first trip to BGU. **Right:** Founder Hilda Namm (right), with Florence Giamona, enjoying an AABGU reception in Sonoma. Hilda was acknowledged that evening for her generous gift to help BGU researchers come closer to a cure for type 1 diabetes.

medical research for adolescents. In December, Margie made her first visit to BGU, and plans to return with her family in July.

A GIFT TO HELP CURE DIABETES

BGU diabetes expert Dr. Eli Lewis presented his groundbreaking research throughout the Bay Area. Jane and Barry Moss hosted a reception at their Tiburon home, where Dr. Lewis spoke about clinical trials he had just completed, with promising results for reversing type 1 diabetes. When Hilda Namm of Larkspur learned about his work, she made a leadership gift to help accelerate this research toward a cure.



Riki and Jacob Dayan of Los Altos Hills hosted a gathering of 70 Bay Area Israelis for an evening of Hebrew poetry with Dr. Anat Weisman from BGU's Department of Hebrew Literature who is currently on sabbatical at Stanford University. Pictured here are Orli Rinat, host Riki Dayan, and Dr. Anat Weisman.

SOUTHWEST

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BGU LAUNCHES PILOT PARENTING PROGRAM

With the support of Judge (ret.) Leon S. Kaplan, national board member, the Southwest Region hosted a luncheon in his home to highlight a reflective parenting program Leon has promoted at BGU. In attendance were Los Angeles City Council member Jan Perry, along with Stacy Sillins and Regina Palley.

The region also hosted BGU Prof. Naama Ataba Poria and Ph.D. student Noa Geron, who came to Los Angeles to learn from a local innovative program that enhances parenting skills by helping parents develop their innate mindfulness.

BGU DOUBLEHEADER IN BEVERLY HILLS

In February, the Southwest Region hosted an event at the Beverly Hilton Hotel featuring two speakers.

Continued on next page



Back Row: Doron Krakow, AABGU executive vice president; Neal Myerberg Esq.; and Philip Gomperts, regional director **Seated:** Prof. Alon Tal and his wife, Robyn



Ruth Flinkman-Marandy, regional campaign chair, national board member, and BGU board member, with her husband, Ben Marandy, in Sonoma



Harry Saal, BGU Board of Governors member, with Judge Leon S. Kaplan in Sonoma

Prof. Alon Tal's topic, "Can Environmental Cooperation Renew the Middle East Peace Process?" provoked an interesting discussion. Prof. Tal, a member of BGU's Jacob Blaustein Institutes for Desert

Research, is one of Israel's leading environmentalists.

Neal Myerberg, AABGU's planned giving advisor, spoke about "Savvy Ways to Make Tax-Advantaged Charitable Gifts and Gain Lifetime

Income Using Real Estate and Other Assets."

Doron Krakow, AABGU executive vice president, provided the introductory remarks.

WASHINGTON/BALTIMORE

Edie and Art Hessel
Washington D.C. Chapter Chairs
Keren M. Waranch, *Director*
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HONORING THE MEMORY OF DAVID BEN-GURION

Richmond, Virginia supporters Marcus and Carole Weinstein visited BGU in

Minister Benjamin Netanyahu spoke during the ceremony about Ben-Gurion's leadership and his personal example of moving to the Negev.

AN EVENING WITH LEADERSHIP

Thanks to the generosity of supporters Peter Schechter and Rosa Puech, the leadership of the Washington/Baltimore Region enjoyed an evening



BGU President Prof. Rivka Carmi and Marcus Weinstein lay a wreath on David Ben-Gurion's grave during the government ceremony marking the 40th anniversary of his passing.

November. They attended Israel's national commemoration of the passing of David Ben-Gurion, which is known as "Ben-Gurion Day." Marcus was given the distinct honor of laying BGU's wreath at Ben-Gurion's gravesite in Sede Boqer. Both Israeli President Shimon Peres and Prime

of Mediterranean food and camaraderie at Zaytinya in October. Dr. Rachel Golan, an alumna of BGU, spoke about her role in the Department of Epidemiology and as a member of Prof. Iris Shai's team that conducted a 2008 study comparing the safety and effectiveness of



Dr. Paula Kabalo with supporters at Towson University in Baltimore, Maryland

weight loss with a Mediterranean, low-fat or low-carbohydrate diet. Dr. Golan completed both her master's and Ph.D. in public health and epidemiology at BGU.

THE VISIONS AND REALITIES OF ISRAEL

Dr. Paula Kabalo, director of the Ben-Gurion Research Institute for the Study of Israel and Zionism, spoke to students and Baltimore area supporters at the Baltimore Hebrew Institute at Towson University. Dr. Kabalo compared the visions and realities of the State of Israel from its inception to today.

EXPLORING INNOVATION AND COOPERATION IN WATER CONSERVATION

In March, the Washington/Baltimore Region and American University sponsored a one-day conference, Water: Scarcity, Innovation and Cooperation. Prof. Alon Tal, a member of BGU's Jacob Blaustein Institutes for Desert Research, was a keynote speaker.

For information about upcoming events in your area, please visit: www.aabgu.org/regions-events
For information about giving opportunities or planned gifts, such as charitable gift annuities and bequests, contact your [regional office](#).

ANTI-SEMITISM

Continued from page 5

Reflecting on his experience in Chicago, Prof. Troen described what is happening with the growing number of BDS resolutions as akin to a carefully orchestrated campaign of arson, and not a few isolated fires. More such resolutions are on the way, and BDS is finding altogether too many enthusiastic audiences in associations across the humanities. Beyond resolutions, American academics are being increasingly confronted with tests of political correctness in regard to Israel and BDS: tests that bear upon matters of promotion and tenure. It is a difficult environment for young academics—and for students.

BGU is a standard bearer for promoting cooperation and opportunity for all Israelis and for international students and faculty from across the globe. We can and should be justifiably proud. But rational repudiation of anti-Semitism rarely even makes a dent.

Academic boycotts are un-American. Anti-Semitism is anathema to American values. And we must be vigilant in shining a spotlight on every instance; in denouncing those who would attempt to delegitimize Israel; and in restoring a safe, sound and secure environment for every student and faculty member, Jewish and otherwise, who are committed to and engaged with the Jewish State.

Am Yisrael chai. ■

ULTRA-ORTHODOX PSYCHOLOGISTS

Continued from page 23

that these things are not so dangerous as they're thought to be. That's the way things will change. But gradually—they can't be rushed."

He is very pleased that a second master's program, in clinical psychology, may now be taking shape. Talks with the Higher Education Council are in progress and Leiser and Bar-Shalom hope to open the program for women next year and for men the year thereafter. ■

ENTREPRENEURIAL SPIRIT

Continued from page 20

business, and is now working on an automated air traffic control system. In 2007, he agreed to join the Center as project manager.

"We had to change the way people think about what can be done in a university," he says, "and bring them practical knowledge."

He has seen a major shift in student outlook since 2006. "I'm amazed now by the amount of interest. Rather than becoming good employees, young people want to learn how to become good entrepreneurs. They believe in themselves and understand what they want."

CONNECTING WITH THE NEGEV

Students bring in business ideas generated by their courses, or by Center events. While many of the hopeful entrepreneurs come from the engineering and business management sectors, a surprising number are from other fields, such as education.

They come up with ideas for new schools, or social services with low startup costs, for example.

"Many students initiate ventures to help the community and are especially passionate about them," Shavit says. Prof. Drory points out that fostering new businesses serves BGU's mission to galvanize the region's economy.

One segment of the Center's business plan competition focuses on local development. Recent ideas included a center to help lonely

hospital patients, a branding proposal for the Bedouin village of Rahat, and a plan to train area youths in technology.

Shavit emphasizes that students who start businesses are less likely to leave the area, and often work with people in the community. "It keeps good and interesting people in the Negev, so the region can grow and improve. By focusing on entrepreneurship and innovation, we're taking part in a big change happening here."

Prof. Dafna Schwartz sees a great opportunity for BGU to play yet a bigger role in the Negev, especially given the relocation of key army units to the region and the new technology park adjacent to BGU (see page 3).

"We've accomplished a lot but we need to increase our activity even more, and expand our vision," Schwartz feels.

"We believe that integrating ideas from the world of entrepreneurship and innovation into academic courses



Engineering students developed an autonomous submarine that was entered in an international competition and showcased at BGU's 2013 Innovation Unconference.

is critical to Israel, and to our students. What the Center offers, combined with learning the principles of entrepreneurship in class, lays the groundwork for revolutionary research." ■



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