“Most people overestimate what they can do in one year and underestimate what they can do in a decade”

Bill Gates
Dear Friends,

It has been 18 intensive months since I became President of Bar-Ilan University, and a full year has passed since we introduced our 10-year Strategic Plan - Impact beyond Excellence. To my great pleasure, we can already see the fruits of our efforts throughout our campus.

Surveying Bar-Ilan, I can report with confidence that we are on our way to achieving the goals we set for ourselves. BIU is gaining recognition as one of Israel’s best academic institutions, and is also increasingly recognized internationally as a prominent, trail-blazing, 21st-century hub for research and learning.

Most encouraging of all is that our Strategic Plan has sparked a range of different initiatives which, even though launched independently, have worked together to generate growth across the University. Indeed, we watch with continued satisfaction as what we call our ‘Five Visionary Pillars’ and ‘Four Foundations of Support’ (outlined in detail below) form a kind of neural network, in which innovation in one node travels quickly throughout the system, impacting and propelling all the others.

Our newly-implemented Microsoft BI business analytic system helps to amass a wealth of accurate data for BIU decision-makers, transforming fields as distant from one another as finance, recruitment, international ranking, marketing and research. The changes enabled in each area have come together synergistically, bringing about multiple developments in different fields.

In addition, our innovative financial plan Alumot, ready for implementation in the coming academic year, stands to transform BIU’s organizational culture - significantly enhancing managerial responsibility, effectiveness, and flexibility at every level. Making the University sources of income transparent to decision-makers across campus, Alumot will give heads of academic units an unprecedented opportunity to initiate targeted actions for increasing their income, and then use extra funds to develop their units.

The present publication gives a sense of the substantial, multi-dimensional evolution experienced by BIU over the past year. And I can assure you, this is only the beginning…
Innovative concept of challenge-driven research. Each mark on our country, our nation and humanity as a group is no longer enough, but impact is also crucial to the success of our efforts, already evident in the rankings for 2018, include Information Science rising to the 76-100 range of ARWU, and Material Science and Engineering now in the range of 151-200, also according to ARWU. Further, Arts and Humanities have jumped an impressive 100 places in the Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and QS World University Ranking. In addition, we have recruited 30 outstanding new faculty members and appointed special Research Trustees in every academic faculty to increase our research output in every field. Some impressive results of our early efforts, already evident in the rankings for 2018, include Information Science rising to the 76-100 range of ARWU, and Material Science and Engineering now in the range of 151-200, also according to ARWU. Further, Arts and Humanities have jumped an impressive 100 places in the THE Ranking.

### 1. Raising BIU’s International Rankings

Currently ranked among the world’s 500 leading universities, BIU aims to improve its standing, within a decade at most, into the top 250. To this end, specifically targeting the rigorous criteria of the leading global university rankings, we plan to increase the number of excellent researchers, expand first-class research published in leading global journals, and maximize our bibliometric database.

In the past year, we have established a special Rankings Taskforce that guides our actions toward fulfilling the criteria of the most important rankings – for example, Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and QS World University Ranking. In addition, we have recruited 30 outstanding new faculty members and appointed special Research Trustees in every academic faculty to increase our research output in every field. Some impressive results of our early efforts, already evident in the rankings for 2018, include Information Science rising to the 76-100 range of ARWU, and Material Science and Engineering now in the range of 151-200, also according to ARWU. Further, Arts and Humanities have jumped an impressive 100 places in the THE Ranking.

### 2. Impact-Driven Research

In today’s challenging environment, academic excellence is no longer enough, but impact is also crucial to the success of the modern university. Accordingly, the outstanding researchers of BIU aspire to leave a lasting mark on our country, our nation and humanity as a whole. For this purpose, BIU’s goal is to develop 25 interdisciplinary Impact Centers, founded upon the innovative concept of challenge-driven research. Each center brings together researchers from different fields across campus to address common challenges and seek solutions leading to positive change.

Eleven of our Impact Centers were already operational in 2018-2019: the DepressoMeter, Network Science, Smart Cities, University Research Prison, QUEST, Applied Cryptography, INREP, EnKs, Jewish and Democratic Law, Data Science and Personalized Medicine. Six more centers are in various stages of planning and implementation: JINA, Old Age, Multiculturalism and Multilingualism, Psychology of Old Age, Cannabis and Archaeological Botany. In addition, we have already established UNBOX – BIU’s Center for Entrepreneurship and Innovation.

### 3. Advanced Teaching and Learning Methodologies

To keep pace with rapidly-changing educational cultures, we are developing and implementing innovative teaching approaches and learning technologies. These new pedagogical methods provide our students with a challenging, immersive educational experience, and also equip them with state-of-the-art tools for acquiring knowledge in the 21st century, crucial for succeeding in the job markets of the future. The advanced teaching methods employed on our campus include online MOOC courses, “flipped” classrooms, remote learning and more. At the same time, we enrich our curricula and offer instructors at every level, the necessary training for teaching in a digital-age academic institution.

In 2018-2019, BIU introduced a wealth of new study programs, on both graduate and undergraduate levels, targeting the students of today with their varied sets of backgrounds and interests. Noteworthy examples include Digital Humanities and Geographical Information Technology for graduate students, and undergraduate double-majors such as Law and Social Work and Physics and Life Sciences. In addition, two innovative interactive classrooms are under construction and will be ready for the fall of 2019; five BIU MOOC courses are already accessible online to learners around the globe; 60% of our students submit their papers through Moodle; and 60% of our teachers grade exams online. These steps, with many others, attract growing numbers of students to BIU: indeed, BIU now manages to recruit some of the country’s most outstanding students who in the past might have taken a different path for their studies.

### 4. Internationalism

We believe that a strong global spirit brings many benefits to our campus: increased innovation and creativity, enhanced understanding and acceptance of other cultures, greater research diversity and a lively academic atmosphere. With all these in mind, we strive to make our campus truly international, providing programs and services friendly to English speakers, with the aim of raising the percentage of international students from our former level of 2% to 9%.

In May 2018, we established BIU’s International School, providing all services “under one roof” to all of our target audiences from overseas – applicants, students, researchers and visitors, while making extensive efforts to recruit new international students; the numbers of which have already risen to 3.4% of our student body. A modern English website has been launched, and several English-language courses are under development, some of which will already be offered in the summer of 2019. In addition, we have formed a substantial number of academic collaborations and exchange agreements with institutions in China, India and Europe.

### 5. The Third Mission: Judaism

In recent years, many universities around the world have adopted a “3rd Mission,” through which they engage with the social and cultural needs of their surrounding community, thus complementing the traditional missions of education and research. In this sense, BIU is in a unique position, already born with its 3rd Mission embedded in its very DNA – Judaism. Today, with its outstanding cutting-edge academic resources, and with the commitment to the age-old values of Jewish traditions, BIU seeks to become a global-hub for discussing, debating and generating creative solutions to the great challenges faced in both Israel and the Diaspora. BIU aspires to be a center for discussions about the relationship between Judaism and democracy, Judaism and technology, as well as Judaism and nationalism.

In 2018-2019 we began a substantial upgrade of BIU’s renowned 56-year-old platform The Responsa Project, the world’s only database of Rabbinic literature; and the Lookstein Center launched a strategic process to ensure its position as a leader in Jewish education for Global Jewry. Our longstanding Ludwig and Erica Jesselson Institute of Advanced Torah Studies continues to find innovative ways to promote Torah studies as a fundamental part of academic programming. In March 2019, BIU’s Center for Jewish and Democratic Law in the Faculty of Law expanded its activities to transform Israel’s often divisive and competing cultures of discourse.

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Four Foundations of Support

1. Management Processes
In our ongoing efforts to enhance the appeal of the University, we strive to make BIU as accommodating and friendly as possible toward all its target audiences – students, faculty, management, guests and representatives of other institutions. To this end, we have begun to introduce current-day administrative standards into our organizational culture, while at the same time working to streamline essential administrative procedures and thus improve the professional performance of academic and administrative managers.

During 2018-2019 we expanded management training opportunities for new Deans and Heads of Schools and Departments, and for the first time set well-defined targets for student recruitment. We dedicated the current year to outlining the financial plan Alumot to be launched in October 2019. The program aims to provide financial stability for the University within three years, while securing the resources needed for growth and development for our strategic plans for the future.

2. Infrastructure
Modern, well-designed infrastructure will significantly improve the BIU campus experience, as well as the University’s ability to maximize its potential. We are therefore now in the process of implementing a range of expansions and upgrades: constructing new buildings, renovating classrooms and libraries, building state-of-the-art laboratories, expanding our Student Village and more.

In 2018-2019, we improved the overall campus environment by upgrading lecture halls, introducing advanced study-spaces, and beginning preparations for the expansion of the Azrieli Faculty of Medicine in Safed and the Kofkin Faculty of Engineering on our main campus. Construction at the site of the new Alexander Grass Computer Science building on campus began in January 2019. Central equipment labs at the Institute of Nanotechnology and the Faculties of Medicine, Engineering, Life Sciences and Exact Sciences were also upgraded. At our Student Village, we renovated all existing facilities and launched the construction of two new 11-story buildings which will accommodate 1,700 students and visiting researchers.

3. Information Systems
Advanced information systems available today can significantly enhance decision-making processes, promoting the quality and efficiency of management at every level. For this purpose, we are now implementing cutting-edge BI principles and systems across campus.

In 2018-2019, we introduced the powerful state-of-the-art Microsoft BI system, with the first version already up-and-running. BIU researchers are now connected to CoolCite, an academic portal that records and tracks research output. In December 2018, we launched a comprehensive project for equipping all BIU libraries with advanced Alma software.

4. Marketing
Powerful branding and well-focused marketing and sales operations are certain to improve BIU’s public profile, drawing growing numbers of outstanding students and researchers, who together will enable the University’s continued growth and development.

In the 2018-19 academic year, BIU established a new Marketing and Business Development Division, which includes dedicated units for marketing and advertising, digital assets, events and sales promotion, marketing analysis and student recruitment and services and the spokesperson’s office. With the upgrade of the BIU website, the University’s digital presence has been enhanced, with independent sites launched for all 52 academic departments. Various recruitment campaigns and events attracted more than 1,700 new applicants to our institution.

Although challenges still lie ahead, with the many important steps taken in the past year, we feel certain that we are on the right track toward achieving the strategic goals we have set.
We are now in the second year of Prof. Zaban’s presidency, and we can sense a spirit of renewal and vigor all over the campus. Teams in various offices are implementing the vision articulated in the President’s forward-looking Strategic Plan of “Impact Beyond Excellence”. There is continued advancement in the consolidation of many areas of the University and there is a standard of excellence and accountability being implemented in the Administrative and Academic departments.

Working together, the administration, academia and the lay leadership, will allow us to meet the many challenges presented by the rapidly changing environment and position Bar-Ilan in its rightful place as a leading University, not only in the State of Israel but, also, in the Global Academic Community.

There are many wonderful things happening now at Bar-Ilan under President Zaban’s tutelage.

To list a few:
• 11 Impact Centers were launched to conduct advanced research in the area of interdisciplinary collaboration.
• State of the Art teaching and learning methods are being implemented, including online courses and interactive classrooms.
• The University’s International rankings are a priority.
• A dynamic Marketing & Business Development Division has been established and is already showing good results.
• The redesigned International School will help us attract students and researchers from overseas.
• An innovative (BI) Business Information system is transforming numerous processes throughout the campus and is providing timely data that is critical for decision making.
• BIU libraries are being equipped with state-of-the-art software.
• New construction is happening at the Student Village and at the new Alexander Grass Computer Science Building on campus.

Concurrently, Bar-Ilan, with its special mission in the Jewish world, feels an ongoing responsibility for the preservation and enhancement of Jewish identity both in Israel and the greater Jewish World. The University’s commitment to excellent research in all disciplines and high standards of academic education, combined with a discipline of Jewish Values and Jewish Scholarship, makes Bar-Ilan the ideal address to meet the challenges of the future.

Together, we will make a difference.

Michael Jesselson
Chairman, Board of Trustees

One year ago, I became Chairman of the Council of Trustees of Bar-Ilan University, beginning a personal journey of discovery. As I became increasingly familiar with the University and its extensive resources and activities, I discovered an institution in which excellence is an everyday reality, and impact is the ultimate purpose, shared by researchers and administrators alike.

I also learned, however, that the public, both in Israel and overseas, is not fully cognizant of Bar-Ilan’s manifold attributes and achievements. Thus I understood that one of BIU’s greatest challenges for the coming years is raising the profile and visibility of our University brand through intensive outreach operations, addressing both specific target audiences within the academy, as well as the general public at large.

With this in mind, I strongly believe that the Strategic Plan adopted by University leadership and embraced by faculty and administrators, represents the right course for BIU’s development in the challenging decade that lies ahead. Outlining all the major paths for our future development, as well as putting in place the structural foundations required for such growth, the Strategic Plan harnesses the wonderful women and men of BIU – from researchers and teachers to administrators throughout the campus – on behalf of our shared missions of renewal and progress. I am proud to join in this process which will ensure continued excellence in our academic pursuits, as well as in our managerial systems and skills – both needed to perpetuate BIU’s core values for generations to come.

Shlomo Zohar
Chairman, Council of Trustees and Permanent Committee
2D or Not 2D: Harnessing Graphene for Better Electronics

The Israel Innovation Authority approved the establishment of a new consortium in which BIU is a key partner together with high profile Industry such as Altek Electronics, Elbit Systems, Elitra Mellanox, Orbotech, Siemens, and Vibes. The aim is to transfer existing academic knowledge in the field of graphene materials to the microelectronics industry.

Graphene is a carbon fiber that is extremely light, immensely tough, yet flexible, stretchable and allows high conductivity of electricity. Israel’s chip- and printed circuit-board industry will subsequently utilize the research about graphene’s unique properties to make innovative products.

Dr. Doron Naveh of the Kofkin Faculty of Engineering and Institute of Nanotechnology and Advanced Materials of Bar-Ilan University is the Principle Investigator for his 2D-electronics lab. “Two-dimensional materials” refer to substances that are ultrathin and have restricted motion in the third direction. Naveh’s research goal is to harness characteristics and innovative physical phenomena of two-dimensional substances into functional technology, even if their operation is beyond existing paradigms.

Poor quality or quantity sperm, or the inability to produce sperm at all is one of the most common causes of infertility. At present, when a man has no possibility of establishing a biological offspring, the only options available are adoption or sperm donation.

Dr. Nitzan Gonen of the Mina and Everard Goodman Faculty of Life Sciences, is developing a suitable in-vitro environment that mimics the natural conditions of the reproductive system, which allows for the complete differentiation of the sex cells into functional sperm cells. This research is in collaboration with Prof. Doror Seliktar of the Technion, who specializes in the formation of synthetic structures for cell incubation; and with Prof. Azim Surani of the University of Cambridge, a leading global investigator in the field of sex cells.

This groundbreaking research is of great importance for solving male infertility issues and may enable many couples to produce biological offspring. More good news from Israel, from Dr. Gonen’s lab.

Time to get those ZZZ’s

All animals sleep, even though sleep puts them at risk for being attacked by their jungle mates. But if we don’t sleep (or don’t get enough of the blessed shuteye), our brain function is impaired, the risk of degenerative brain diseases increases, and prolonged sleep deprivation can be lethal. So what is it about sleep that has such an impact on our brains?

An innovative explanation why getting a good night’s sleep is so important for one’s health was published this year in a groundbreaking study led by Prof. Lior Appelbaum of the Mina and Everard Goodman Faculty of Life Sciences and the Leslie and Susan Goldschmidt Multidisciplinary Brain Research Center (Gonda). The results were published in the Journal Nature Communications and made waves in the scientific community and popular media (including over 100 media outlets across the world).

The research team tracked individual nerve cells in the brain of transparent zebrafish during periods of sleep and wakefulness. It was discovered that the damage that accumulates in the nervous system while awake repairs itself during sleep when the body’s low activity allows the cell to reallocate resources for proper DNA maintenance. So sleep tight!

New hope for male infertility

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Bible for the Seoul

Kim Kungsik, a Methodist minister from Seoul, is writing his doctoral dissertation at Bar-Ilan’s Zalman Shamir Bible Department and at the same time is developing the AlphAlef application for translating the Hebrew Bible into Korean. The app that Kim has developed analyzes Biblical Hebrew, the structure of Hebrew law and grammar, and other important data that allows Koreans, who are mostly Christians, to obtain a deep and fundamental understanding of the Bible, a basic book in the Korean tradition.

More than 20 undergraduate and graduate students from South Korea are currently studying at the Department and are joined by students from China, Taiwan, the United States, England and other countries.

EXPLORE
IMPACT BEYOND EXCELLENCE
FROM VISION TO IMPLEMENTATION

Visionary Pillars

International rankings
Impact Driven Research
Advanced Teaching
Internationalism
Third Mission
1st Visionary Pillar
Raising our International Rankings

Although BIU ranks in the top 3% of the world’s academic institutions, we are convinced that with our outstanding resources – researchers and infrastructure – we can do even better. We have thus set ourselves the strategic goal of placing among the top 250 universities in the world by the year 2027. Our steadily rising profile has already significantly enhanced our visibility, both in Israel and worldwide, improving our competitive edge and attracting growing numbers of excellent students, researchers, partners and friends.

Rankings Taskforce
Over the past year, we have continued our efforts to enter the top echelons of the renowned global rankings of academic institutions. To accelerate this ascent, we established a special Rankings Taskforce that analyzes the criteria of the various rankings and takes steps to improve BIU’s performance within these important ranking parameters.

To learn more about the criteria for obtaining higher international scores, our special team communicates regularly with various ranking institutions worldwide, with an emphasis on the most prominent: ARWU (Academic Ranking of World Universities), also known as the Shanghai Ranking – in which BIU ranks between 450-500 in the world; THE (Times Higher Education) – ranked 151-200 in 2018; Materials Science and Engineering advanced from 201-300 to the prestigious 151-200 range. In Mathematics, we demonstrated another substantial change in ranking – from 401-500 to 201-300. Many other disciplines attained impressive rankings: Information Science, entering for the first time, debuted in the 76-100 range; Political Science and Law placed 101-150; and Sociology, Education and Psychology all ranked in the elite range between 151-200.

Encouraging Results in Global Rankings

The dedicated Taskforce, supported by the University management in this critical mission, offers faculty members and research students a range of incentives, encouraging them to publish papers in exclusive scientific journals. Science and Nature, for example, are highly valued in the global rankings. The ongoing implementation of advanced digital information systems throughout the campus (Coolsuite, BIU) will lead to greater global exposure for research conducted at BIU, thereby improving our international profile. Further, intensive recruitment efforts have already brought 30 outstanding new faculty members to our campus this year (12 in the STEM disciplines and 18 in Humanities), with the expectation to recruit at least 20 more next year, further raising our standing in the global academic community.

Research Trustees
As a further initiative in our drive for top global positioning, BIU has appointed Research Trustees in all Faculties, to highlight BIU’s ever-increasing research positioning, BIU has appointed Research Trustees in all Faculties, to highlight BIU’s ever-increasing research positioning.

Research Trustees, appointed by the Research Authority’s new Entrepreneurship Unit launched in November 2018, review the current grant award success-rate in their respective faculties, taking various measures to improve it. These trustees work with individual researchers, identifying relevant calls for proposals in their field (especially for prestigious European Union grants), providing information and personalized support throughout the often complex proposal process.

To facilitate the process, our Research Trustees work closely with ISERD – the Israel-Europe R&D Directorate – providing a range of incentives to researchers, including grants for assistance in composing effective proposals; advice on content, editing, translation and graphics; as well as guidance for writing papers for leading scientific journals such as Science and Nature; as well as special incentives for writing papers in the Human Sciences.

Advancement of Women
BIU, committed to equality in the workplace, continues to support the advancement of women in the BIU scholarly community. An important component of BIU’s vision for the future, the presence of a growing cohort of women faculty members is also an important criteria for the various ranking bodies. We are proud to share that this year 11 (36%) of our 30 new faculty members are women, and that the number of women in our central academic committees is continually on the rise. In the last year, 26 women were appointed to such bodies, including the Higher Academic Council, the Senate, the Central Committee, the Appointment Committee, and the Appeals Committee. In addition, a special website and Facebook page provides information on women’s rights and empowerment programs, with regular meetings on campus for women faculty (with already two this year).

The Research Trustees, working closely with the University Management, have already brought 30 outstanding new faculty members to our campus this year (12 in the STEM disciplines and 18 in Humanities), with the expectation to recruit at least 20 more next year, further raising our standing in the global academic community.
Impact Centers

Our primary means for reaching our strategic goals is the establishment of a network of forward-looking, inventive and innovative interdisciplinary Impact Centers across campus. At each Center, researchers from different faculties and departments join to seek solutions for many of the critical challenges faced in the world today. All these centers benefit from BIU’s ability to promote high-impact collaborations of experts and researchers from the Humanities, Social Sciences and STEM fields. To date we have established 11 such Impact Centers:

• **The Depresso Meter** – Researchers in psychology cooperate with Machine Learning and Big Data experts to develop the world’s first system for a quantitative diagnosis of depression – expected to significantly improve the diagnosis and personalized treatment of many millions who suffer from this 21st century epidemic.

• **Network Science** – Physicists, Engineers, Mathematicians, Computer Scientists and Life Scientists work together to make BIU a world leader in this new field of research, analyzing how various networks – from cyber and social networks to neural networks and ecosystems – impact our lives. Six faculty members and about 60 students and post-docs take part in this massive collaborative effort.

• **University Research Prison** – BIU researchers from Criminology, Psychology and Computer Science work to establish the world’s first University Research Prison – a unique social-impact project introducing data-based policies into prison management, while providing a wealth of training and research opportunities.

• **QUEST (Quantum Entanglement Science and Technology)** – Teams of Theoretical and Experimental Physicists, Engineers and Computer Scientists develop tools for the Quantum Revolution, expected to revolutionize the performance and capabilities of existing computers.

• **EnICS (Emerging Nano-Scaled Integrated Circuits and Systems)** – Researchers at the Faculty of Engineering collaborate with a range of startups and entrepreneurs to revolutionize computer chip design focusing on System-on-Chip technology, hardware security, high-performance low-power circuits and more. In 2018, the Center extended its activities to include circuits for quantum computing, neural networks on chips, processor design and chips for bio and space applications.

• **Applied Cryptography** – Bringing together researchers from Computer Science, Engineering, Mathematics and Brain Research, the Center develops advanced methods of Cyber Security to ensure digital privacy and protect critical systems and networks from cyberattacks. Members present their work in high-profile international conferences, with the 2019 Winter School attended by more than 170 participants.

• **INREP (Israel National Research Center for Electrochemical Propulsion)** – A world-leading Center in which researchers in Nanotechnology, Advanced Materials and Chemistry combine their professional know-how to develop innovative technologies for clean-energy transportation. Innovations include advanced rechargeable high-energy-density batteries, as well as fuel cells generating power from Hydrogen and Oxygen in a process that produces no harmful byproducts, but only clean water. The Center collaborates extensively with large international corporations, including BASF of Germany, LG-CHEM of Korea, as well as America’s General Motors.

• **Smart Cities** – This multi-aspect Center combines the expertise of researchers from areas as diverse as Business Administration, Law, Education and Geography, Computer Science, Engineering, Chemistry and Physics, to improve the quality of life in the cities of the future. Activities focus on: collaborations with cities, corporations and government agencies both in Israel and overseas; applied research both on campus (autonomous vehicles, for example) and in neighboring cities (open data, green wall for urban heat islands and more); conferences on relevant topics (ecosystems, smart cities, etc.); and expanding ties with cities and researchers worldwide (in China, Australia, Germany, Korea, the US, and Austria among other countries).

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Several more Impact Centers are currently in various stages of planning and development:

- **JINA (Judaism in Israel and North America)** - The first academic platform for addressing the rifts that have become increasingly deep between the Jews of Israel and North America. Researchers study the religious, social, and historic aspects of this emotionally fraught relationship, with the goal of providing a neutral framework for discussion between different demographics and religious movements, aiming to develop new paradigms of reconciliation for the future.

- **Old Age** - An initiative of the Weisfeld School of Social Work to promote research on the various psycho-social aspects of old age, aspiring to modify the ways in which the elderly are perceived and treated both by professionals (health care, etc.) and the Israeli public at large.

- **Physiological Aspects of Old Age** - A project to study the genes and metabolism involved in aging and related diseases, such as metabolic syndrome and diabetes. The goal is to identify metabolic “pathways” that change in aging and find ways to delay such processes in order to provide better quality of life in aging populations.

- **Multiculturalism and Multilingualism** - An effort to raise awareness of the advantages of multilingualism in schools and communities in Israel’s increasingly multicultural society.

- **Cannabis** - from Botany to Society - An all-encompassing taskforce to advance the use of the Cannabis plant as a therapeutic drug for various ailments, without incurring the psychoactive properties of the drug, and without requiring patients to smoke. Psychologists and brain researchers are working on fine-tuning the effects of different therapies; BIU’s geneticists and botanists are working towards Cannabis “growth-lines” to eliminate the need for chemical spraying against contamination and disease.

- **Archaeological Botany** - This innovative interdisciplinary project studies ancient seeds at both the morphological and genetic level in order to trace historical events in the Land of Israel. The group uses analytical methods from biology and materials science to answer questions ranging from the highly eclectic to the practical such as: what food did the Masada rebels eat? What type of wine did King David drink? What were the plant genetics that allowed for resistance to pathogens during Biblical times? Can we identify such genetics and reintroduce them into our crops today?

**New Research Initiatives**

Faculty members on campus across the disciplines introduced a wide variety of new research directions over the past year. The following offers just a small selective sample of such initiatives: Gerontology - biological and social-sociological-psychological aspects of old age; brain-computer interfaces; vision science and optometry; personalized medicine; ethnography of Jewish communities; epigenetic processes affecting the 2nd generation; cognitive and emotional aspects in neuroscience; literature and multiculturalism in contemporary Israel; biological psychiatry; leadership and management; pragmatisms and translation; the iconography of material culture in the ancient Near East; Islam in Asia and Latin America; the history and philosophy of economics; theories of media; the geography of sexuality; environmental epidemiology. The list goes on…
Research Grants & Collaborations

Funds for Research: Grants & Donations
Since May 2018 BIU researchers have won prestigious research grants totaling over 52 mNIS. Major grants included Horizon 2020 and ERC Starting grants in the sum of 32 mNIS for research in: astrophysics, mathematics, life sciences, physics, optometry, computer science, information studies, neuroscience, engineering, chemistry and social work.

Grants were complemented by generous donations from our friends and supporters: 50 mNIS enabled further development of existing fields of research, as well as the recruitment of new researchers returning from top institutions overseas; 8 mNIS facilitated the development of projects in Jewish education and Jewish values, and covered scholarships and research in psychology, law, Judaism & democracy, literature, languages, Talmud, archaeology and more; and 15 mNIS were channeled toward social projects and legal and psychological clinics that provide essential services to the surrounding community.

Research collaborations with Israeli institutions
BIU and its various Faculties conduct ongoing collaborations with a range of government agencies and other Israeli institutions, designed to promote Israel’s research and national goals, thereby significantly impacting the country’s growth and future development.

Some of our closest allies within the Israeli government include: the Council for Higher Education and its Planning & Budgeting committee, approving and evaluating our study programs, supporting the growth of our Azrieli Faculty of Medicine and Kofkin Faculty of Engineering and Department of Computer Science, and boosting new research directions, such as AI and Quantum; the Innovation Authority with its Magnet and Kamin programs and various academia-industry consortiums; the Rehabilitation Division at the Ministry of Defense; The Administration for the Development of Weapons and Technological Infrastructure (Maf’at) at the Ministry of Defense, funding several national security research projects on campus; The Ministry of Environmental Protection and the Ministry of Justice, supporting the research and civic activities of the Environmental Regulation Clinic at our Faculty of Law; the Ministry of Communications which licensed our Smart Cities Center to conduct research with industry on IoT and communication technologies; The Ministry of Health, the Ministry of Finance and the Ministry for Development of the Negev and the Galilee, who are partners in the expansion of the Azrieli Faculty of Medicine in Safed, with the latter also supporting the establishment of the Faculty’s research institutes at four medical centers in northern Israel; The Ministry of Education, collaborating with our School of Education in numerous activities and projects, from research to teacher training; and the Kamea program of the Ministry of Aliyah, facilitating the absorption of new scientists arriving from overseas.

Additional institutional partners in Israel include: The Israeli Health System, Medical Centers in the Galilee and community health services in northern Israeli, working together with the Azrieli Faculty of Medicine in Safed to transform health services in the Galilee, so far specifically in the fields of oncology, radiotherapy, neurosurgery and cardiovascular medicine; the Israel Medical Association which recognizes the unique program Biomedical Computation for MDs at the Mina and Everard Goodman Faculty of Life Sciences; the IDF’s Medical Corps collaborating with the Weisfeld Department of Social Work in a study on combat soldiers suffering from PTSD; the nearby local authorities, participating in studies conducted by our Smart Cities Impact Center; and the International Atomic Energy Agency, in which our Institute of Nanotechnology and Advanced Materials is the only Israeli representative.
BIRAD Ltd. was established by Bar-Ilan University for four primary purposes. First, BIRAD cultivates the research potential of BIU research initiatives until they reach the maturity-threshold required for implementation in industry. Secondly, the company actively solicits demands for research-output in industrial organizations and finds effective connections between research-products and industrial needs. Thirdly, BIRAD’s extensive experience and intensive involvement in industry allows it to adjust and adapt the components of research-products (as well as evaluating the feasibility of industrial production) to the conditions needed for innovation as stipulated by the Israel Innovation Authority. Finally, BIRAD maximizes BIU’s income by seeking ways to commercialize its proprietary knowledge.

BIRAD conducts a wide variety of activities to enable and promote the maturity of BIU’s research projects and prepare them for commercialization. BIRAD provides the most up-to-date information to BIU’s researchers about activities in industry, as well as in the Israel Innovation Authority. Additionally, BIRAD organizes high-profile professional conferences to create robust collaborations with industry. It also offers guided tours on campus giving researchers, potential investors and industrial representatives’ exposure to the manifold resources available in BIU labs.

Significant growth in patent families in 2018
BIRAD expanded patent registrations in new industries, as well as the number of patent families in business, chemistry, engineering, computers, and physics.

Increase in revenues from the Israel Innovation Authority
Thanks to BIRAD’s extensive activity, the cooperation between its researchers and industry’s representatives has increased Bar-Ilan’s revenues from the Israel Innovation Authority by 300%.

Birad’s achievements
BIRAD’s achievements have five major facets - with significant growth registered in the numbers of patents commercialized, patents filed, patent registration to new industries and new companies, as well as income from research.
The 21st-century has seen a complete transformation in methodologies of teaching and approaches to the learning process. In our ongoing strategic effort to boost our position as a cutting-edge educational leader, BIU has introduced this pedagogic revolution into our campus. We are committed to the belief that a wealth of innovative, original study programs, coupled with state-of-the-art, personalized and online approaches to learning, will attract increasing numbers of knowledge-thirsty digital-age students to BIU.

New Study Programs

A major element of BIU’s innovative educational strategy is the development of new study programs that appeal to a new generation of academic learners, while, at the same time, preparing them for job markets of the future. Accordingly, over the past two academic years, BIU has introduced over twenty new programs:

New graduate programs in the 2017-2018 academic year include Data Science; Regulation and Environmental Policy; Innovative Pedagogy in Bible Studies; an Interdisciplinary program in the Social Sciences: Accounting, Economics and Political Science; Russia and Eastern Europe Studies; and Genocide, Holocaust, Racism.

In 2018-2019 we added: Digital Humanities; Information Technology; Music; Technology and Visual Media; Geographical Information Technology; and Corporate Management and Environmental Innovation. More graduate programs were recently added in the Life Sciences, Engineering, Earth Sciences, Gerontology, Art Therapy and Music.

Extending the modern multidisciplinary spirit to the undergraduate level, we focus on stimulating new double majors. In the 2018-2019 academic year these included: Physics and Life Sciences; Law and Social Work; Land of Israel Studies and Archaeology and Information Studies; Land of Israel Studies and Archeology and Education Chemistry and Physics; and Chemistry and Mathematics. Other new undergraduate programs were introduced in Communication, Information Science, Criminology, Sociology, Education and Logistics.

An especially innovative program, Biomedical Computation for Doctors, offered by the Mina and Everard Goodman Faculty of Life Sciences, targets MDs. Preparing physicians for the fast-approaching age of personalized medicine, the program has been recognized as a study and research program in the fundamental sciences for interns by the Israeli Medical Association.

Several more programs have been approved and will be launched in the 2019-2020 academic year. These include 3 graduate programs – Visual Arts Therapy, Vision Science and Gerontology, as well as an undergraduate program in Human Resources. Other programs, still in various stages of planning and approval, include 4 new undergraduate programs in the Kofkin Faculty of Engineering – Industrial Engineering and Information Systems, Materials, Software and Data Engineering, all of which significantly enhance the offering of this important Faculty.

Developing the Humanities and Social Sciences

While, in our technological era, the Humanities and Social Sciences have experienced a regrettable decline in funding worldwide, BIU remains committed to these faculties as central pillars of the University. Traditionally placing these areas – what we call the Human Sciences - at the heart of Bar-Ilan scholarship, we are now taking steps to ensure their continued prominence and impact, as providing, among other things, an important link between the worlds of technology and our day-to-day human world.

Our efforts to sustain and advance the Human Sciences are currently in various stages of planning and implementation; Reorganizing the Faculty of Humanities by uniting relatively small units to form larger and stronger departments; dividing the Faculty of Social Sciences into 3 separate faculties – Social Sciences, Management and Education; developing special interdisciplinary programs to attract outstanding students; developing a non-research MA (without a thesis) in Jewish Studies; building a new Art Therapy program; encouraging collaborations between Jewish Studies and the Exact Sciences; and upgrading basic Jewish Studies by adding core and online courses.

Online Courses

Online teaching and learning, enables both independent study and personalized learning processes. BIU is producing online MOOC courses on a variety of different topics from across the disciplines. The following 12 courses are either on the web, already enjoyed by students world-wide, or in advanced stages of development:

- The Bible in Light of the Ancient Near East (launched at the beginning of 2018); Biblical Archaeology (launched December 2018); Jewish Art (launched January 2019);
- Genomics and Biomedical Informatics (launched April 2019); Introduction to Mechanics (launched May 2019);
- Automatic Computer Systems, Judaism in Light of Chazal, Computational Biology, Physics, Computer Science, Basic Jewish Studies, Jerusalem.

With our special team dedicated to the development of online courses, BIU has already established a good foundation for large-scale educational productions, reflecting the needs and capabilities of university researchers and students. The team, under the guidance of its managerial offices, includes a video production company providing the professionals services necessary for producing high-quality courses; techno-pedagogic personnel specialized in translating frontal course materials into on-line courses; as well as a strategic educational expert who helps to refine the concepts and aims of each online course.

Moodle - Online Learning

BIU’s Moodle online learning environment has gained favor and popularity among faculty and students, and is increasingly integrated into teaching and learning processes, evidenced, for example, in a rise of 60% assignments submitted through the Moodle system. To facilitate further growth, BIU provides extensive training for lecturers to negotiate the many resources available on Moodle. Most recently, software for the prevention of plagiarism has been integrated into the Moodle system, providing an important resource for instructors seeking to insure the originality of student work.
Grading exams online
To the benefit of both students and lecturers, a new system for grading exams online has been introduced. Following an exam, all exam booklets are scanned and uploaded, allowing teachers to grade them anywhere, anytime – even while traveling overseas – without the burden of hardcopies. The software also ensures that all sections are graded. When an instructor has finished making grades, just clicks send, and students are instantly apprised of their results online. The popularity of the system has risen dramatically – from 10% in the second semester of last year graded online, to 60% in the first semester of 2018-19.

Interactive classrooms
BIU in the process of constructing 2 advanced interactive classrooms, specially equipped for flexible and innovative teaching methodologies, such as the “flipped” classroom model, including interactive whiteboards, audiovisual devices, computers, microphones, as well as video cameras. The classrooms, each with a capacity of 35-40 students, accommodating as many as 50 courses per semester, will be ready for use in the fall of 2019, and have already elicited considerable interest throughout the campus. A special workshop has been designed to train lecturers for the interactive classroom; and 8 more interactive classrooms are slated for construction in the coming years.

Training our Teachers
At BIU, our researchers and lecturers are our most highly-valued resource, and we make every effort to maximize their teaching potential. BIU has recently introduced 20 workshops, designed to help BIU teachers improve their performance in class, both technically and pedagogically. Received with great enthusiasm by instructors, these workshops help with a diverse set of tasks including creating effective PowerPoint Presentations, managing Moodle efficiently, properly using voice and body language, even handling problems of discipline in the classroom. Further, new faculty take a compulsory two-day workshop; an additional workshop instructs faculty members on how to maximize conference attendance.

Our teaching skills courses are in great demand, often filled completely within one hour of their initial announcement. The results of our efforts are also encouraging: for the past two years BIU has placed 2nd among universities, and 1st in many parameters in the annual teaching satisfaction survey of the National Student Union.

Microteaching
To enhance our teachers’ pedagogical skills, we have also introduced the microteaching approach – through which an instructor gets immediate and personalized feedback. Responding to a lecturer’s request, a teaching expert observes a lecture, and then offers suggestions for improvement in a one-on-one meeting. The demand for this format is constantly on the rise – from 10 lecturers in the 2016-17 academic year to about 30 in the current academic year.

Reducing dropout rates
BIU has launched a comprehensive campaign to reduce student dropout rates. The 20 departments with the highest dropout rates have been identified, and special Dropout Trustees have been appointed in each department. The Trustees participate in a 5-session workshop, training them in protocols for preventing students from leaving their studies. In addition, aiming to establish a strong bond with our students from day one, we have introduced Online Orientation Days into all academic departments on campus.

Increasing student recruitment
BIU continues to expend considerable energy to attract more and higher quality students through a variety of channels. Attractive new study programs have been developed and programs initiated by the Council for Higher Education; the Planning and Budgeting Committee has implemented plans to draw more students to specific disciplines.

BIU’s new Marketing Department works tirelessly to present the many benefits of studying at BIU to the widest range of potential applicants, both online as well as through more traditional means. Student Services are constantly evaluated and upgraded; aiming for maximum digitalization, specific marketing procedures are tailored to the needs of each Faculty.

The fruits of this comprehensive drive for student recruitment are already in evidence. Over the past 3 years, BIU has seen a slight rise in the numbers of freshmen beginning their studies, and this year the total number of students on campus crossed the intended target of 17,000, with about 50% undergraduates.

Attracting outstanding students
Several steps have been taken to increase the numbers of outstanding students studying at BIU. The special Ilnan program has been improved and expanded from 15 to 30 students, and is now open to students from the Rector’s Honors Program, adding about 5-8 participants annually. The number of new students admitted to the Rector’s Honors Program has also increased from 38 last year to 51 this year; and a new interdisciplinary program for outstanding students in the Faculties of the Humanities and Jewish Studies is now underway. In addition, the percentage of new PhD students in the Human Sciences who transfer from other universities rose from 32% in 2016 to 57% in 2017, and 43% in 2018. This encouraging data shows that more and more students who can choose any university in Israel, are now opting for BIU.

Encouraging students from the social and geographic periphery
302 new students from Israel’s minority population began their undergraduate studies at BIU this year, 50 (16.5%) more than in the previous academic year. At present our minority student community totals 1450 – about 900 undergraduates, 400 studying for their Master’s degree, and 55 working on their PhD. Academic support for these students continues to be evaluated and upgraded, and now includes a preparatory summer course, academic leniency when needed, the acknowledgment of non-Jewish holidays, and a range of special social activities. BIU’s activities on behalf of Israel’s non-Jewish minority populations show our commitment to Israel’s democratic and multicultural future.

Making higher education accessible to minorities
The number of students in BIU’s special Haredi Campus is on the rise – from 185 last year to 223 in the 2018-19 academic year, signaling BIU’s commitment to educating the untapped potential of this sector.

Promoting the advancement of women
BIU strongly supports the advancement of women students on campus. Special funds have been allocated to women graduate students and post-doctoral researchers – including up to $12,000 – in the form of teaching assistantships, post-doctoral positions overseas, and travel scholarships for graduate students for participation in both conferences and courses abroad. BIU has organized a wide range of women-oriented events on campus – including a workshop for preparation for the post-doc, a Women’s Day event, two workshops for women doctoral students, as well as dedicated institutional support for Pro-Woman activities. Finally in a symbolic, but meaningful step, the opening paragraph on BIU exams has been changed – in the Hebrew – to the non-gendered plural form, finally replacing the common masculine form.
The modern university must be, by definition, international; to be sure, academic research knows no national boundaries. On any given day at BIU, one sees many faces from around the globe, hears a variety of different languages in labs and classrooms, and is witness to a large variety of cultures all active on our multicultural campus. With such diversity the mark of a successful, forward-looking, high-profile 21st-century University, BIU feels confident in its future as a magnet for the international academic community.

Beginning our strategic drive for internationalism one year ago, with international students having comprised a mere 2% of our student body, we aim to more than quadruple this figure – to 9% - within the coming decade. Over the past year we have launched major efforts to meet this goal and have already reached the 3.5% mark. With the establishment of our dedicated Strategic Committee on Internationalism, BIU has already defined an overall strategy for action in the coming months and years.

BIU International School

In May 2018, we established Bar-Ilan University’s International School, which assumes responsibility for a vast range of operations and upgrades, designed to make our global target audiences feel truly welcome at BIU. To this end, the School, with its newly appointed staff of 14, has set up an all-inclusive, friendly and accessible system of services for candidates, students, researchers and visitors from overseas, while painstakingly seeking potential collaborations with academic and research institutions worldwide.

These missions are tackled with deliberation and energy by the School’s four units. Student Services provides international students with a “one-stop-shop” for all of their administrative needs, helping them meet the various challenges of their new life in Israel (visas, insurance, dormitories, etc.). The Partnerships Unit builds promising collaborations with academic and research institutions worldwide, including the exchange of students, lecturers, researchers and administrative personnel. The Visitor Services unit accommodates the needs of representatives of academic institutions worldwide, as well as researchers and diplomats. The unit for Marketing and Recruitment for International Students works in collaboration with BIU’s Marketing Division, including representatives from 6 regions around the world – 3 in the US, 1 in Canada, and 1 each in India and China.

In recent months, BIU has been represented at student fairs world-wide – in Brazil, Mexico, Peru, Argentina, Panama, South Africa, France, England and Hungary, as well as university fairs – the European EAGE in Switzerland and the American NAFS – where they have sought collaborations with students from other high-profile institutions. In its efforts to bring in new international students, the School also works closely with Jewish organizations in Israel and overseas, including Telfed of South Africa, Nefesh B’Nefesh, World Bnei Akiva, World Maccabi, Bnei Dror, the Jewish Agency, Masa (including their new “Onwards” summer program), the World Zionist Organization, Israel Experience and more. Additional endeavors focus directly on Jewish schools overseas, so far specifically in Brazil, the US and Hungary.

Websites, Courses, Accommodations

BIU has taken significant steps to overcome the barriers of language an international student will inevitably face in Israel. BIU has an updated state-of-the-art international English website which provides, among other things, an Orientation Guide for new students, as well as offering online administrative support with interactive help. In addition, we are currently preparing an English portal to provide personal information – timetables, grades, and tuition fees – individualized for each international student. On campus, all signs are now in the process of being translated into English, and a newly renovated dormitory building, with accommodation for 100, has been designated specifically for international students.

To facilitate the growth of our international academic programs, several teams on campus are developing courses and programs in English. In addition, special summer programs specially designed for international students offer academic credit, as well as accommodation, meals on campus and weekly trips to explore the country. Student thus combine their academic work with a full experience of life in Israel, in a program designed to encourage return to BIU for enrollment in full degree programs.

In the summer of 2019, BIU will offer four graduate level programs; one on “Identity-based Conflict Resolution,” as well as programs on Nano-photonics, International Business, and a course on ‘Biblical Archaeology: Israel from Past to Present.’

International Collaborations

Collaboration is at the core of all academic activity, and BIU initiates and promotes a wide range of partnerships with academic and research institutions around the globe. We place special emphasis on the rising powers of the East, particularly China and India. Our agreements include those with Shandong University in eastern China for collaborations in the fields of comparative religion, law, medicine, nanotechnology and physics; 7 research collaborations between BIU’s Institute of Nanotechnology and Advanced Materials and Faculties of Exact Sciences and Engineering with the Chinese Academy of Science (CAS) on topics such as DNA, cancer diagnosis, nanomaterials, fuel cells; collaboration between the School of Education and the China Youth University of Political Science; collaboration between the Faculty of Law and the University of International Business and Economics in Beijing; as well as other agreements with the Chinese University of Petroleum, the Sichuan University of International Studies and the Ambedkar Marathwada University in India.

Collaborations in Europe are manifold, and include 140 student, faculty and staff exchange programs through agreements with 45 premiere academic institutions under the auspices of the EU’s Erasmus program; participation in the international network Bilingualism Matters (and the establishing of its Israeli branch); 5 exchange programs of the Faculty of Law with European institutions; and nanotechnology collaborations with Finland’s Jyvaeskylae University and Portugal’s International Iberian Nanotechnology Laboratory (iNANO). In addition, our Institute of Nanotechnology participates in research projects with the International Atomic Energy Agency.

In April 2019, BIU signed an agreement with Ankara University in Turkey for a new program in Jewish Studies, and exchange agreements have also been signed at the state level with Brazil and Kazakhstan.
5th Visionary Pillar
The Third Mission: Judaism

BIU’s 5th Visionary Pillar, the University’s “Third Mission,” is embedded in its very DNA: Judaism. From Bar-Ilan’s earliest inception, the University has cultivated Jewish learning and the study of Jewish culture in its many diverse forms. Current conversations at BIU address the many challenges of Judaism today, as we invite others from around the world to join us in our studies, discussions and deliberations.

Having established our reputation as a leader in all aspects of Jewish Studies over the past decades, today our focus is to expand our impact in the global arena of Judaism, showing our University and our campus to offer discussions and deliberations.

The Center for Jewish and Democratic Law

One of the prominent institutions through which BIU fulfills its third mission is the Center for Jewish and Democratic Law, under the leadership of Prof. Shachar Lifshitz. Established in 2015 at the BIU Faculty of Law, the center addresses the core paradox of Israeli identity – the constitutional duality of Israel’s definition as a ‘Jewish and Democratic state’. With its unique position in a university that upholds rigorous standards of academic inquiry; that actively cultivates a pluralism of perspectives; and proudly boasts a mastery of legal knowledge, the Center works to find bridges between ostensibly conflicting sets of values and ideologies. In pursuit of such goals, the Center aspires to develop new language and methodologies focused on reconciliation and not conflict, with the end of making policy recommendations for the Jewish and democratic state of the 21st century. The Center seeks to complement its more scholarly pursuits with a range of activities dedicated to community education and public conversation and debate.

Some of the highlights at the Center for Jewish Studies and Democratic Law during the 2018-19 academic year included an international conference on the “Basic Law: Israel as the Nation-State of the Jewish People” focusing on the bill passed in the Knesset in July 2018; a competitive annual call for research proposals on Judaism and Democracy; a study group on Women, Feminism and Religion in Israel; and a series of public events in collaboration with the Cameri Theater in Tel Aviv.

One of the Center’s most successful initiatives is our High School Education and Leadership Program, targeting students from both religious and secular high schools. In a series of five visits to our campus, nearly 300 participants have shared their different experiences, and deepened their knowledge of Israeli democracy while studying works about the foundations of democracy, as well as complementary Jewish sources.

Recently the Center was given an opportunity to utilize newly developed theoretical knowledge and practical tools for the benefit of the Israeli society. A unique partnership with Mr. Haim Taib, initiated by BIU Board member Mr. Ephraim Kriel, the Center assumed the responsibility to manage the Israeli Congress for Judaism and Democracy.

The Israeli Congress is a social endeavor that aims to change Israel’s culture of public discourse. Operating from within an academic center, the Israeli Congress offers fresh academic approaches and business-inspired practical problem solving methods as means to lower the social tensions that the Israeli society is facing. To achieve these goals, the Congress runs yearlong “Agreement Councils” that brings together prominent figures from all sectors of the Israeli society. Each Council address a specific social issue from Israel’s public life. In a careful and thoughtful process, the Councils’ attempts to reach constructive agreements, according to which concrete measures will be implemented in the Israeli society. Not strictly an academic endeavor, the Congress strives to engage the public through various forums and activities, eliciting solutions from all spheres for today’s most controversial questions.

Through its innovative academic, educational, and public activities the Center for Jewish and Democratic Law allow BIU to take a leading role in the efforts to fortify Israel’s identity Jewish and Democratic state.

The Ludwig and Erica Jesselson Institute of Advanced Torah Studies

BIU’s Institute of Advanced Torah Studies, established over 45 years ago, promotes Torah studies as a fundamental part of our academic programs, in order to strengthen Jewish identity in Israel, and enable students to pursue their academic degrees along with Torah studies. Comprised of a Beit Midrash for men and a Mikdash for women, the Institute targets students from all Jewish ethnic and socio-economic backgrounds, from undergraduates to PhD candidates. The Institute offers a rich combination of Jewish learning, legal studies and opportunities for personal empowerment, all in Bar-Ilan’s unique University setting, allowing for the cross-fertilization of ideas between the worlds of Torah and academia.

The Beit Midrash for Men offers Torah learning programs at all levels - for secular students engaging in Torah studies for the first time to Rabbinical students preparing for ordination. Students also participate in various community-oriented programs, including leadership initiatives and special programs designated for different religious populations. Our dedicated programs at the Beit Midrash participate in larger community outreach, welcoming retirees and international students as well.
The Midrasha for Women, a unique place of study, encourages women of all backgrounds, both observant and non-religious, to cultivate personal growth through Torah study. The Midrasha plays a cutting-edge role in the Jewish world, helping to create a cohort of learned women who employ their scholarship to find innovative solutions to many of the most pressing religious challenges facing Israel today. Like the Beit Midrash, the Midrasha opens its doors, with a range of programs, to women of all skill-levels, and all ages from the community.

The Lookstein Center

The Lookstein Center at BIU, recognized for decades as the center of Jewish educational innovation, provides critical supports for Jewish educators – especially in Jewish day schools worldwide, as these educators learn, teach, and lead to ensure that the next generation of Jews is educated, engaged, and committed to Jewish life.

In the summer of 2018, the Lookstein Center embarked on a strategic planning process to ensure that it would retain its position as a global leader in Jewish education. To this end, the Center defined three main strategic objectives:

First, the Center is creating and distributing engaging, accessible, and affordable Jewish educational products, primarily through the online Lookstein Virtual Jewish Academy. Among the Center’s most innovative educational offerings is the blended courses initiative allowing students to combine traditional and online learning. Second, in order to train effective and inspiring Jewish Studies educators, the Center is expanding training opportunities, introducing new online courses and webinars, as well as intensive face-to-face “bootcamp” courses. Third, to ensure its impact in the 21st century Jewish educational arena, the Center is refining and expanding its online presence, with a comprehensive facelift of its website, journal, social media and email interfaces. In addition, the Center will expand its reach through building relationships with more Jewish day schools, training more teachers, and developing additional high-quality curricular materials.

Open Bible Lecture Series

Our successful Open Bible public lecture series, an initiative of BIU’s Bible Department launched seven years ago, is still going strong, offering stimulating new perspectives on both familiar and less familiar Biblical texts. With 70-150 attendees per lecture, and 12 lectures annually, the series focuses on one Book a year, beginning with the Book of Joshua in its first year, and this year focusing on the Book of Isaiah. Lecturers, many of whom are BIU faculty members, discuss the various books from the viewpoints of their own diverse specializations - ranging from Rabbinical commentaries and Jewish theology to modern poetry and archaeology. The Lecture series thus brings all of the sophistication and complexity of BIU’s modern multidisciplinary approaches to bear on shedding new light on ancient Biblical texts.

Promoting Multiculturalism

One of Bar-Ilan’s core missions is to promote dialogue between Jewish traditions and modern social and democratic values, including today’s vibrant multiculturalism. BIU has pursued numerous initiatives to advance this goal among our students, faculty and staff, and its position BIU as an arena where different sectors of Israeli society can safely meet, converse and debate. We have introduced, for example, multicultural advancement and training programs for academic and administrative personnel. For students, we have designed a course cluster on multiculturalism, focusing on the wide variety of demographic groups within Israeli society, and seeking opportunities for mutual understanding. In addition, we are excited to have joined President Rivlin’s ‘Israeli Hope in Academia’ project, which creates a platform for encounters between different Israeli populations. We have also submitted 33 creative projects for consideration for the Good Hope Award, which encourages activities in the spirit of multiculturalism.

The Responsa Project (שו”ת)

One of Bar-Ilan’s most longstanding and successful projects is “The Responsa Project” the world’s only database of all Rabbinic literature, spanning 3,000 years of Jewish thought. Launched in 1963, decades before Google or any other modern search engine, the Project was a true trailblazer of Big Data. In recognition of its enormous contribution to leveraging Torah studies worldwide, the project received the Israel Prize in 2007.

Recently we embarked upon an upgrade of this monumental project, with plans to create a modern open online platform, accessible to all, and equipped with advanced analytical tools based on the technologies of Artificial Intelligence and Deep Learning. The modernized database and its innovative algorithms will serve scholars and laymen alike, providing users with stimulating perspectives on current issues. It will also offer a solid foundation for Digital Humanities research, which employs digital methodologies to redefine learning in humanistic disciplines. The Responsa project is one of notable way in which BIU brings together ancient Jewish traditions with the most cutting-edge technological innovations to meet the needs of the Jewish people, both in Israel and abroad.
Here’s to Gut Health!

Over the past decade, there has been an alarming increase in the incidence of inflammatory bowel disease (IBD) in Israel. Types of IBD include ulcerative colitis and Crohn’s disease, which are chronic and currently incurable illnesses. Dr. Shai Bel, a returning scientist from UT Southwestern at Dallas, Texas, and a new researcher at the Ariel Faculty of Medicine, demonstrated that these diseases can be prevented by manipulating the extracellular protective layer of microbes (those trillion little microorganisms that live inside our insides). This manipulation changes the microbial composition and thus protects the body from the development of diseases.

The largest silver coinage treasure, ever discovered in Israel, from the time of the Bar Kokhba Revolt, was found in the Twin Cave the Jerusalem Hills. A collaboration of Bar-Ilan’s Prof. Boaz Zissu from the Martin (Szusz) Department of Land of Israel Studies and Archeology and the Unit for Information and Caves Research at the Hebrew University
The ultimate success of our ambitious Impact Beyond Excellence 10-year Strategic Plan, depends on BIU’s ability to effectively attract and serve ever-growing numbers of stakeholders – applicants and students, lecturers and researchers, friends and partners. To this end, we have undertaken to significantly deepen the University’s connections with all of these groups, upgrading the BIU experience of our target-audiences at every level. We dub these efforts, both underpinning and buttressing the Five Visionary Pillars of the Strategic Plan, our Four Foundations of Support.

1st Foundation of Support: Management Processes

Smooth, seamless administrative support is one critical key to becoming a friendly, outward-looking 21st-century institution. To stand out in today’s highly competitive academic arena, introducing advanced standards of management and nurturing a state-of-the-art organizational culture are essential. Identifying room for improvement in several areas, we have initiated a number of significant innovations and reforms.

Training for academic leaders

As is conventional in academia, BIU researchers and lecturers, who excel in their scholarly fields, also must assume administrative leadership roles – as, for example, heads of laboratories, departments, schools or faculties. In many cases, however, these newly appointed leaders have little managerial experience or skill. To prepare and equip scholars for their new administrative positions, we have initiated a range of specifically-targeted training programs.

New Deans and School/Department Heads are now required to participate in an intensive management workshop at the outset of their tenure, followed by additional workshops during the course of their terms. In addition, these new administrators are offered mentoring and close support during their early months in office. To promote a meaningful review process, they are required to submit annual reports, to discuss conclusions and future planning with career administrators, and to help in an orderly transfer of duties when they ultimately step down. On a parallel track, junior faculty and PhD candidates receive training in laboratory management, enabling them to run their labs efficiently, much like small startup ventures.

Alumot

Alumot, BIU’s financial plan, to be launched in October 2019, is currently coordinated in collaboration with academic and administrative leaders at all levels on campus. The program aims to stabilize university finances within three years, while securing resources needed for future growth and development as envisioned in the Impact Beyond Excellence Strategic Plan. Alumot also brings a new transparency to BIU financial ledgers, providing managers at all levels with critical information about incoming funds, as well as expenditures, thus facilitating an informed and optimized budget planning processes.

Targets for student recruitment

A team consisting of BIU’s Rector, Vice Rector, Deans, CEO and Chief Marketing officer gathered to set specific goals for recruitment for every Department on campus. This process was enabled by our newly-introduced Business Intelligence system (see below under 3rd Foundation of Support: Information systems) which analyzes past and present data with greater accuracy, presenting decision makers with a clear and multifaceted picture of our University, both its current performance and future needs.
2nd Foundation of Support: Infrastructure

Today, it is commonplace to acknowledge that physical environment is crucial for an individual's well-being, vitality and growth. As an institution of higher learning, BIU is committed to providing a setting conducive to learning and research, welcoming to all who wish to participate in BIU's vibrant university life.

Pleasant and accessible environment

A key for creating a welcoming environment is accessibility. Accordingly, most public areas on BIU's campus have been made accessible to those with disabilities: sidewalks at pedestrian crossings have, for example, been modified to accommodate wheelchairs, and special restrooms for the disabled have been installed throughout campus. In addition, special tracks for walking, running and cycling have been marked, inviting the entire campus community to participate in activities that are part of a healthy lifestyle. Gardening, irrigation and lighting systems have been upgraded throughout campus, and we are excited to announce that BIU will soon launch Israel's very first autonomous shuttle through campus, and we are excited to announce that BIU will soon launch Israel's very first autonomous shuttle through campus.

Teaching infrastructures

Two 24/7 study spaces dubbed ‘the cube’ were established on campus in 2018, serving as a shared work area for students from all Faculties and Departments, with a third to be built during 2019. Teaching labs, classrooms and halls at several Faculties were renovated, and a comprehensive project for upgrading heating and air-conditioning systems is underway.

Student Village

BIU has begun a comprehensive expansion and upgrade of its Student Village, serving the needs of both local and international students, as well as visiting researchers, bringing a lively multicultural spirit to our campus. The 6 existing structures offering 559 beds have been renovated, and 2 new 11-story buildings, comprising a total area of 33 square meters and containing 1,700 beds, are currently under construction, with inauguration expected in October 2020. A new sports center, currently in the planning stages, will be housed adjacent to the village.

Research Infrastructure

Our Strategic Plan aims to expand the BIU faculty within the next decade, and new infrastructures are planned to accommodate these new researchers. BIU places special emphasis on expanding our younger Faculties – the Azrieli Faculty of Medicine in the Galilee and the Kofkin Faculty of Engineering. Accordingly, plans have been drawn for ambitious and significant expansion of the Azrieli Faculty of Medicine in Safed, doubling the research infrastructure and capacity of the current facility. Planning is also underway for an additional Engineering building that will be home to 20 new scientists returning from postdoctoral fellowships abroad.

Alexander Grass Computer Science Building

For its international visibility and prominence, the Computer Science Department has a special place in BIU's research profile. The Department, as acknowledged by the National Commission of Higher Education, “makes a unique contribution to the strengths of Israeli computer science and is a top-tier department in international rankings.” Ranked 151-200 in the world by ARWU, BIU’s Computer Science Department is a global leader in Natural Language Processing, Artificial Intelligence (AI), Robotics and Cyber Security. CS Rankings for Computer Science institutions places the Department first in Europe and 11th in the world in Natural Language Processing and Artificial Intelligence, and 8th in Europe (1st among Israeli universities) in Cyber. Given its status and reputation for excellence, it is no surprise that the Department attracts the largest number of undergraduates of all its counterparts in Israel.

Soon the Department will have a new state-of-the-art home of its own - the Alexander Grass Computer Science Building, the construction of which began in January 2019. The modern 6,300-square-meter building is uniquely designed to facilitate the powerful combination of innovation and collaboration that fuels all top-flight modern research. The complex will include a wide range of facilities, conducive to innovative research partnership: an auditorium and an attractive open courtyard, a spacious Innovation Hub for undergraduates – including the quiet Incubator and the lively Volcano area, brainstorming/study rooms for teamwork, networking and collaborative projects, convenient individual and shared workspaces and research networking lounges, seminar and conference rooms, as well as a faculty lounge. In addition, the new building will offer cutting-edge research facilities: the Helmsley AI Floor Speech and Voice Laboratory, a combined Robotics Lab and Drone Fly Zone and the Henry Sherman Cyber Security Wing.

Equipment labs

BIU operates several advanced central equipment labs, furnished with state-of-the-art research technologies, offering scientific services to researchers from all over campus, as well as to 200 industrial corporations – from medical R&D to chip production. In March 2018, a new equipment lab, the Fluorescent Microscopy Center was launched at the Mina and Everard Goodman Faculty of Life Sciences, boasting some of the best microscopy equipment available today. Given its superb capabilities, the Center was chosen by Leica Microsystems, a world-leading manufacturer of microscopes and scientific equipment, as a Beta Site for its new systems. Advanced systems were also purchased for the Electronic Microscopy Center and the Fabrication and Clean Rooms Center at the Institute of Nanotechnology. The equipment labs at the Azrieli Faculty of Medicine, the Kofkin Faculty of Engineering and the Faculty of Exact Sciences were also significantly upgraded, with the renovation of personal research facilities for some of BIU’s most prominent innovators.

Mapping

As a crucial step toward the revitalization of the BIU campus, as envisioned in our 10-year Strategic Plan, and in order to prepare effectively for the anticipated upgrading of infrastructure, we have mapped all buildings and analyzed the needs and facilities of all Faculties. All improvements and additions will be executed over the coming years according to well-organized plans, with the end of significantly enhancing the BIU experience for all of its stakeholders.
BI at BIU

BIU is developing advanced BI (Business Intelligence) infrastructures, as a powerful managerial tool to enable data-based decision-making processes across campus. The innovative Microsoft BI system amalgamates and unifies databases that were historically developed separately (with different, unsynchronized definitions), retrieving and concentrating all data in a common data warehouse.

who are at high risk of dropping out; offering training to lecturers with less-than-adequate teaching skills; directing marketing efforts at specific geographic regions; discovering which courses present the greatest academic difficulty; creating multifaceted profiles of students who receive scholarships; as well as comparing success predictions with actual achievement.

Alma for our libraries

As we work on gathering data through the novel BI systems, we are also in the process of upgrading our existing information systems. Last year saw the completion of the upgrading of the BIU Student Services system, and in December 2018, we launched a mega-project for replacing the old library software Aleph with the advanced new-generation, web- and cloud-based Alma library services platform – to be implemented in all BIU libraries by January 2020.

Representing a quantum leap in academic library services, Alma offers a range of cutting-edge tools that will significantly enhance both study and research activities at BIU. Alma's revolutionary search-engine enables users to discover resources available on location as well as those to be found in global online databases. Alma also makes available professional tools, such as the Community Zone, where librarians and information-specialists from academic libraries throughout Israel share information and knowledge, in the process significantly upgrading and expediting library services. Alma's ability to streamline integration with ERP systems throughout campus will substantially improve necessary administrative procedures within our information systems.

CoolCite

CoolCite, the new academic portal implemented throughout the BIU campus, records all academic activities and research output of faculty members, providing a complete picture of academic performance, available to Deans and Heads of Departments seeking information about their units, as well as to international ranking bodies evaluating our various departments and disciplines.

In the 2018-19 academic year we were able to meet the recruitment goal we had set for ourselves, and today BIU's student community totals 17,000 students.

Marketing

During the 2018-19 academic year, BIU established a new Marketing and Business Development Division based on the University’s Strategic Vision. The Division aims to upgrade the visibility, image, positioning and branding of the institution and its various units, spreading the word among all stakeholders and target audiences – candidates, students, faculty, potential recruits, employees as well as the general public.

The new Division comprises six professional clusters - Advertising, Digital Communication, Events and Sales, Promotion, the Spokesperson’s Office and a dedicated Student Recruitment and Services Center.

The Marketing Division aims at working closely with Student Services, in order to streamline services provided to our candidates and students, from the pre-application stage all the way through to graduation. Analyzing protocols procedures in every Faculty, the Division has begun to introduce improvements and tailor-made marketing protocols for each.

Our online presence is constantly being enhanced, as we aim for maximum digitalization of both our marketing and administrative processes. The main BIU website is undergoing a comprehensive remake, starting with an upgrade of the existing website, and moving forward to the creation of a completely new website, with up-to-date design principles, based on the most current-day technologies. Other digital initiatives include a podcast application, digital brochures for all 52 BIU Departments and more. We feel confident that these projects, showcasing our University to new audiences, will significantly elevate BIU’s presence in social media.

We are pleased to report that these activities have already begun to bear fruit: in the 2018-19 academic year, we were able to meet the recruitment goal we had set for ourselves, and today BIU's student community totals 17,000 students. Activities targeting next year's candidates include a campaign for graduate students, the "#Things that are happening at BIU" campaign", 2 Open Days in February and May and a wide range of on-line marketing activities both for the Bar-Ilan brand and for the specific departments. Resulting in a 15% increase in applications for the 2019-2020 academic year.

As we implement our Strategic Plan in the face of manifold contemporary challenges, we plan to attract the finest students and researchers to BIU, while making the exciting and ever-changing world of research accessible to communities outside of the University. In the process, we have generated an exciting upbeat sense of renewal felt today on campus, as we look forward with even greater enthusiasm to BIU’s future.
Going beyond the walls-figuratively and literally: Bringing MOOC to the Arab Sector

Dr. Yossi Ben-Zion, deputy head of the physics department and doctoral student Fatma Hamuda, are developing a MOOC (massive open online course) in Physics studies for the Arab sector. Physics studies are required for all subjects in the life sciences, including x-ray and imaging, biotechnology, chemistry, mathematics - fields that are very popular in the Arab sector. Language gaps make it difficult for students to pass these required lessons, preventing their progress. So, BIU catered to this need by using innovative technology of a transparent discussion board that enables you to see the lecturer and view facial expressions and formulas written on the board at the same time. "This technology was developed only two years ago, and the studio at Bar-Ilan University – one of its kind in Israel – is identical to the one at MIT."

Women leading the way in Natural Language Processing

Dr. Reut Sarfati, who received the highly esteemed European Union ERC prize, is an excellent example of Bar-Ilan's recruitment successes and also the sixth female researcher to join the department of Computer Science. An expert in natural language processing, Dr. Sarfati will work alongside leading NLP professors Ido Dagan and Yoav Goldberg. The combination of forces has exponentially made Bar-Ilan a global player in this central field, which focuses on developing the ability of computers to understand human language and to communicate in this language, as opposed to traditional computer languages. This field has many uses, from automatic translation, military and intelligence use, to the development of robots that can understand, communicate with, and assist an elderly person.

A Driving Force for Smarter Transportation

Bar-Ilan together with the Technion won a tender for the establishment of the National Research Center for Smart Transportation. Bar-Ilan is a leader in global research and developing techniques that are paving the way for practical and green solutions for a sustainable future. The Chemistry Department's Prof. Doron Aurbach won this year's Eric and Sheila Samson Prime Minister's Prize for Innovation in Alternative Fuels for Transportation.

According to Aurbach: "We currently have all the information needed to implement autonomous transportation based on artificial intelligence systems and sensors. Israeli universities are at the forefront of research in the field and we intend, together with our partners at the Technion, to develop this know-how into a knowledge infrastructure that will lead to practical solutions in the field."

An experiment for the exhibit Music and Synchronization in the Joseph Fetter Museum of Nano-Science and Art. A unique collaboration between Musician Elad Shniderman and Bar-Ilan's Dr. Moti Fridman & PhD student Shir Shahal from the Kofkin Faculty of Engineering and the Institute of Nanotechnology & Advanced Materials. Salute the Military Academy

Like the Biblical Nachshon who was the first to enter the Red Sea, the Faculty of Social Science's Nachshonim Teaching Program is all about teaching and taking initiative. A joint venture of the School of Education and the Ministry of Education and the Defense Ministry's Guidance Units for Discharged Soldiers, Nachshonim trains discharged soldiers who garnered extensive experience in training and leadership during their army service and aspire to be future leaders in the field of education.

Getting accepted into the highly competitive program isn't easy: Only 35 percent of the applicants are accepted to the program. The outstanding students studying in this dual BA/MA program receive within just four years a master's degree in education and a teaching certificate in education in a variety of teaching topics. The students participating in the program are on the Dean's and Rector's list and are very active in the field of education upon completing their studies in the program. Now that is taking initiative!
Ahlan Wa Sahlan- Arabic goes international

Our International School is just that—international, or is it? This coming year, in addition to the rich English language programming, the diverse international population on campus will have the opportunity to learn Arabic. But this is not just about speaking the language, the students and staff who study and teach at the University in a variety of its international programs, will learn and experience extensive cultural activity in Arabic. When acquiring fluency in a spoken language, life experiences and cultural exposure enhance the ability to become conversant in the language. The students will interact with Arab residents by visiting their villages near the university campus. In addition to the direct exposure to language, the students will be introduced to local customs, Arab food and the culture of their hosts. Through this academic activity, international and multiculturalism on campus is empowered and expanded beyond. This course, is an example of how Bar-Ilan University is creating innovations in teaching through the interaction of all groups that make up our country.

Inquiring Minds- Cultivating the next generation of scientists

Israeli high school students studying biology are required to do a research project. the Amit School has turned to the Mina and Everard Goodman Faculty of Life Sciences to enable outstanding students in the 11th grade in biology to carry out their research work in Faculty’s laboratories. More than 20 outstanding students around the country were selected for the first encounter of its kind at our Faculty. The high schoolers were mentored by doctoral students and were exposed to first-rate research, and to state-of-the-art equipment. The students conducted genetic research in cow flies, worms, bacteria, sea anemones and cancer cells and will subsequently present their findings in a national science fair.

In Perfect Harmony

For nearly two years, 13 students with intellectual disabilities have been studying music at Bar-Ilan University’s Music Department. These students, all with passion and musical talent, participate daily in classes in music theory and performance and have formed a band that plays, sings and performs at the end of each semester.

The program takes place in cooperation with AKIM (the National Organization for People with Intellectual Disabilities and their Families) and is supported by Israel’s Ministry of Social Affairs and Social Services. Thanks to the knowledge and training that the participants receive, they will be able to integrate within the music and communications industry, such as working in recording studios and music libraries.

Let’s get crackin’

The remains of eggshells, found in refuse and ash in the City of David and dating to the end of the First Temple era, shed light on the food of the local populace at the end of the biblical period. Eggshells as archaeological finds are extremely rare because of their fragility, and the chicken eggs from the City of David are, for the time being, the most ancient finds from the Near East. A new study, headed by Prof. Zohar Amar of the Martin (Szusz) Department of Land of Israel Studies and Archeology at Bar-Ilan University together with Dr. Ashvalom Karasik of the Israel Antiquities Authority for pottery restoration was able to reconstruct the size of the egg using a new unique algorithm.

Halachic food requirements are often measured as the size of an egg. But how big was the egg back in biblical times? Prof. Amar’s reconstruction indicates that the size and volume of the ancient egg were similar to those of an average egg today.

This combination of Silicon nano-particles with an Iron catalyst for the production of Lithium-Ion Batteries with ten times the capacity for self-regeneration. The collaboration of Prof. David Zitoun and Dr. Gilbert Daniel Nessim from the Department of Chemistry and the Institute of Nano-technology & Advanced Materials.
**Prizes & Awards**

**Prof. Emeritus Moshe Kaveh**, former BIU President, for winning the Prize for Higher Education granted by the Israel Council for Higher Education for ‘heading an academic institution and causing a significant change that has led to the extraordinary development of the institution.’

**Prof. Emeritus Rami Benbenisty**, Weizmann School of Social Work, on his election as a Fellow of the American Academy of Social Work and Social Research.

**Dr. Ittai Bar-Siman-Tov**, Faculty of Law, on his appointment as general editor of the leading publication in the field of legislation, Theory and Practice of Legislatures and as co-chairman of the Israel Legislation Association, a branch of the International Association of Legislative Study.

**Prof. Kivrin Caplan**, Israel and Golda Koschitzky Department of Jewish History and Contemporary Jewry, on winning the Shapira Prize for Best Book in Israel Studies in 2018 for his biography, even the evening financial newspaper in Israel, as one of the 50 most important people in the country.

**Dr. Noam Yoran**, Department of Chemistry, 2019 recipient of the Eric and Sheila Samson Prime Minister’s Prize for Innovation and Entrepreneurship for his project on baldness technology distinguished as one the top 100 scientific discoveries, which is among the two percent of 5,000 scientific discoveries in the criterion of technological uniqueness, high commercial potential, and positive impact for the wellbeing of mankind.

**Prof. Zehavit Gross**, School of Education, on her appointment as a member of the Public Advisory Council for Civil Service, under the Civil Service Law 5777 – 2017.

**Prof. Beena Kalsiky**, Department of Physics and the Nanotechnology program being selected by Globes, a daily evening financial newspaper in Israel, as one of the 50 most influential women in 2018 and was elected to the Israel Young Academy.

**Prof. Sari Kraus**, Department of Computer Science, for being awarded the Prizes for Excellence and Scientific Innovation in the field of Computer Science.

**Prof. Ramit Mehr**, The Mina and Everard Goodman Faculty of Life Sciences, on being ranked first among all the universities in Israel for publication.

**Prof. Avi Zadok**, Kline Faculty of Engineering, for being elected as a member of the Executive Committee of Israel Academy and for his article being published for selection in the prestigious Nature Communications Journal (The article was written in collaboration with research students in his laboratory: Gil Bahdan, Ilana Diamand, Yossi London and Eyal Preter).

**Prof. Doron Arbach**, Department of Chemistry, 2019 recipient of the Erle and Sahale Samson Prime Minister’s Prize for Innovation in Alternative Fuels for Transportation (together with Dr. Lars Peter from the NISTE Company in Denmark) in recognition of his recent contribution to the breakthrough development of a new type of magnetism battery. Prof. Arbach is the first Israeli winner in the history of this prize.

**Prof. Judit Bar-Ilan**, Department of Information Science, on her winning the Award for Information Science in 2018 from the Association for Information Science and Technology (ASIST).

**Dr. Ofer Fritsler**, Kline Faculty of Engineering, on receiving honorary membership from the International Society for Optics and Photonics (SPIE) for his significant contribution to the field.

**Professor Yehuda Lindel**, Department of Computer Science, on the occasion of his winning the Prime Minister's Award for Israeli innovation for his breakthrough technology in the field of defense in the online world, and on the development of privacy protection technology.

**Prof. Aren Maier**, The Martin (Ginz) Department of Land of Israel Studies and Archeology, for winning the ASOR Prize for 2018 for a special contribution to the area of Field Archeology.

**Prof. Michal Alberstein**, Faculty of Law, on her appointment as a member of the ERC starting grant evaluation panel of 2018.

**Prof. Joshua Schwartz**, The Martin (Ginz) Department of Land of Israel Studies and Archeology, on the occasion of his appointment as Chairman of the Israel Antiquities Authority.

**Prof. Ayelet Weisz**, Department of Economics, on the occasion of his election as a member of the academic staff of the appeals committee for the Superintendence of Prices of Commodities and Services Law, 1999.

**Prof. Avinatz Hassidim**, Department of Computer Science, for being selected by The Nature as one of the 10 most promising young scientists under the age of 40 for 2018.

**Prof. Adam Peretz**, Department of English Literature and Linguistics, for winning the Jabotinsky Prize for Literature and Research 2019 for ‘iesner’s “Remembrance”: The Destruction of the Damascus Synagogue”.

**Prof. David Bar-Adams**, Department of Mathematics and Photonics (SPIE) for his significant contribution to this field.

**Prof. Tamar Wolf-Monson**, the Leslie and Susan Goldschmeid Multidisciplinary Brain Research, was awarded the title of APS Rising Star.

**Prof. Michael Lasker**, Department of Sociology was awarded the Kline Faculty of Engineering, for winning fellowships for outstanding doctoral students in the high-tech field.

**Prof. Auriach Maccabey**, on his election to the Executive Committee for the Years 2018-19 of the Israel Academy of Sciences for the years 2018-19.

**Prof. Emmanuel Friedheim**, Department of History and Contemporary Jewry, won the Shlomo and Bella Fuchs Prize for 2019 for his book, “The History of this prize.

**Prof. Miron Issakow**, Jewish History was appointed as a member of the Academy of the Hebrew Language.

**Prof. Dorit Kaplan**, Department of Sociology was awarded the Prize for Higher Education granted by the Israel Council for Higher Education for her winning the Award for Information Sciences in 2018 from the Association for Information Science and Technology (ASIST).


**Prof. Gary Mole and Silvia Adler**, Department of French Studies were awarded fellowships from the French Embassy in the United States.

**Prof. Tamar Maor**, Israel and Golda Koschitzky Department Jewish History and Contemporary Jewry was elected as the editor of the prestigious Jewish studies publication Revue des études juives.

**Prof. Eitan Naaman**, Jewish Studies and Archeology, for winning the ASOR Prize for 2018 for a special contribution to the area of Archeology.

**Prof. Danny Haddad**, Department of Computer Science, for winning the Prize for Higher Education granted by the Israel Council for Higher Education for being ranked first among the universities in Israel for publication.

**Prof. Ofer Amir**, Azrieli Faculty of Medicine, was elected Head of the Leslie and Susan Goldschmeid Multidisciplinary Brain Research, was awarded the title of APS Rising Star.

**Prof. Yosef Loked**, Faculty of Engineering, on his winning the Golden Medal at the International Physics Olympiad (IPOC).

**Prof. Lior Hadassi**, Department of Mathematics and Physics; and Itai Yehuda, Department of Computer Science; on their winning bronze medals in the International Mathematics Olympiad (IMO) for High School Students (HMI).

**Yuva Avidan and Gad Shemesh**, Department of Mathematics, for winning First Prizes in the International Mathematics Competition for University Students (IMO).

**David Mass**, Department of Computer Science, for winning the Adams Scholarship.

**Herut Uzan**, Department of Physics; Raf Roth, Department of Physics; Sylvia Fox-Ziv, Department of Computer Science; for winning the scholarship for outstanding doctoral students in the high-tech field.

**Dr. Shemesh**, Kline Faculty of Engineering, for winning the MA Scholarship for Women’s Studies in the High-Tech Sector, 2019.

**Abadi Omer Yitzhak**, Land of Israel Studies and Archeology; Michael Daniels, Linguistics and English Literature; David Michal, Land of Israel Studies and Archeology; Nirser Genstein, Jewish Thought, Asaf Sadan, Commentary and Culture; on their winning Retti Schneers Birthday.

**Nisan Otsara**, Kline Faculty of Engineering; Bracha Laufer, Kline Faculty of Engineering; Amir Goldental, Department of Physics, for winning the Wolf Prize for Physics 2017-2018.

**Tomer Iluz**, in the International Physics Olympiad (IPOC) as a member of the Executive Committee.

**NSF Fellowship**, for winning the Jabotinsky Prize for Literature and Research 2019 for ‘iesner’s “Remembrance”: The Destruction of the Damascus Synagogue”.

**Prof. Auriach Maccabey**, on his election to the Executive Committee for the Years 2018-19 of the Israel Academy of Sciences for the years 2018-19.

**Nasser Yara**, Hanan Abu Hassan, Masarweh Nasser Yara, Department of Physics, Abu Hassan Hanan - The Mina and Everard Goodman Faculty of Life Sciences, Masarweh Shimao - The Mina and Everard Goodman Faculty of Life Sciences, for winning the PBC scholarship for graduate students Research for the year 2018.

**Shahar Haim Nahum**, School of Architecture, Land of Israel Studies, Archeology; and Hailel Hagai Diamandi, Kline Faculty of Engineering, for winning the Adams Fellowship for Doctoral Students 2018/19.

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Friends of BIU

We at Bar-Ilan University are deeply grateful to our partners and friends who have enabled us to bring the goals for advancing Bar-Ilan University to fruition and for positioning it as a foremost academic institution. By supporting important projects and research on campus, you are helping us to achieve our aims for academic and scientific excellence.

Philanthropic highlights of this year include:

- The STEM 100 Returning Scientist Campaign was kicked off with significant gifts. With the help of “The Leona M. and Harry B. Helmsley Charitable Trust”, in 2018 the University was able to recruit a returning scientist in the field of Artificial Intelligence. The Adar Foundation joined us in recruiting returning scientists to the Kofkin Faculty of Engineering and the department of Mathematics, both of whose exciting new research will enhance study in these fields. The recruitment of a returning scientist in Microbiome research was achieved through the kind support of the Crown Foundation.
- With profound gratitude we acknowledge three major gifts for the new Alexander Grass Computer Science building this past year: “The Leona M. and Harry B. Helmsley Charitable Trust” for sponsoring the 2nd floor to be known as the Helmsley AI Floor; Mr. Henry Sherman (USA) for sponsoring the Cyber Security Wing and The Feldman Family (Mexico) for lending their support to this pivotal project.
- Our partners have made vital contributions to three of our Judaism-based programs. We thank Mr. Haim Taib (UK), for supporting programs of the Judaism and Democracy Congress and Evelyn and Shmuel Katz for their ongoing support of the Lookstein Center’s Jewish educational training programs. The Idra-Goren family (Israel) established a Chair in Talmud Yerushalmi in memory of the late Chief Rabbi Shlomo Goren.
- We extend thanks to Mrs. Gabi Weisfeld (Canada) who has made a major contribution to the Ageism Impact Center of the Weisfeld School of Social Work. The Azrieli Faculty of Medicine is grateful to be receiving support for research and scholarships for medical students. To Robert Korda (USA) who dedicated the Korda Research Building in memory of his dear wife Rosina and the J Isaacs Trust (UK) that has lent its support to scholarships for our medical students.
- The Fetter Family’s instrumental gift allowing for the establishment of the Joseph Fetter Nano-Art Museum, unique in the originality of its concept, in which abstract art conveys the latest in scientific discoveries.
- A special note of thanks to Boeing Israel for lending their support to the Visitor’s and Educational Training Center of the Joseph Fetter Museum of Nano-Science and Art. This gift will enable Bar-Ilan to introduce high school students, the researchers of tomorrow, to cutting-edge science.

The Global Development Resource Operations and its Friends organizations across the globe have been strengthening their activities in telling the Bar-Ilan story in their local communities.

- Bar-Ilan UK held a very successful event at the home of Annabel Karmel and Stephen Margolis in London. The evening featured Bar-Ilan’s AI expert, Prof. Yossi Keshet who shared insights on Artificial Intelligence and the impact it is already having on society.
- The Ibero American Friends of Bar-Ilan paid a well-deserved tribute to Mr. Alfredo Frohlich in recognition of his dedication and friendship to Bar-Ilan University and the State of Israel. At the gala event, which was hosted by Mr. and Mrs. Sergio Grosskopf, Mr. Frohlich received the Presidential Award of Distinction from President Zaban.
- The Canadian Friends of Bar-Ilan held an exciting reunion for 35 of our alumni who are currently living in Toronto. Together with the Mexican Jewish community and its Chairman, Nathan Feldman, Bar-Ilan is in the process of forming a Mexican Friends of BIU association.
- The four offices of the American Friends of Bar-Ilan have achieved some marked breakthroughs in branding, market penetration, Board development and increased prestige for Bar-Ilan University during the past year. Dedications this year of the Fetter Museum of Nanoscience and the Rosina Pardo Korda Medical Research Building, as well as generous donations from The Helmsley Charitable Trust and Henry Sherman toward construction of the Alexander Grass Computer Science Building and from the Crown Family Philanthropies in support of the STEM 100 project, demonstrated a year of significant growth and accomplishment. The new STEM 100 campaign, utilizing a modular development system developed by the American Friends, has already started to bear fruit in a number of donation categories.

Over the past year, Bar-Ilan faculty members made presentation alls around the United States. An ambitious advertising and marketing campaign, Bar-Ilan – Making impact, highlighted scientific accomplishments of the University in many targeted markets of the US. And, the redesigned AFBIU website let potential donors and others become more familiar with the strength of the University’s broad array of offerings.

- Bar-Ilan University and the members of the Israel Friends acknowledge, with great appreciation and gratitude, Mr Eli Yones for his many years of devotion and commitment as Chairman of the Israel Friends.

The Israeli Friends Association has enlisted new friends and guests. Many senior industry and management representatives were hosted on campus and visited our research laboratories and our special community-oriented projects.

- The University’s Global Resource Development Operations has been collaborating with the “Keren Hayesod” Foundation in an effort to cultivate new international partnerships enabling us to share our research, innovations and make our impact – across the globe.
EXCELLENCE

An (ethical) Shot in the arm!

Health and paramedical professionals got a shot in the arm with a new dose of bioethics—given in the form of a yearlong course. Offered by the Faculty of Humanities, the course, gives nurses, doctors, social workers and legal practitioners the knowledge, concepts and tools to assist them in making decisions that have ethical ramifications, often with serious personal consequences to themselves and their patients. The course dealt with such fateful treatment issues as discontinuing treatment, forcing treatment, withholding medical information from the patient and discussing it with others, issues of euthanasia, and more. This program for advanced studies in bioethics is the only one of its kind in the field in Israel that places a philosophical emphasis, but with a broad interdisciplinary approach. The aim of the program, which is led by Prof. Noam Zohar and Dr. Efrat Ram-Tikin, is to augment and influence the medical profession through the graduates of the program who return to work in hospitals, nursing homes and welfare departments.

Join our (natural) rewards program!

The brain has its own exclusive membership rewards program that helps to prevent and eliminate addictions. There is also an added bonus, better understanding how reward systems work can help make better bosses! Prof. Galit Shohat-Ophir of the Mina and Everard Goodman Faculty of Life Sciences and the Leslie and Susan Goldschmidt Multidisciplinary Brain Research Center (Gonda) studies the brain reward systems that are essential for our survival, such as eating, drinking, social behavior and the caring of offspring. These behaviors give us natural rewards—a sense of pleasure which is caused by an increase in the level of Type-Y neuropeptides. Similarly, drugs stimulate brain systems to produce natural rewards, resulting in addiction.

Replenishing reservoirs of natural rewards from positive feedback and spending time with friends can reduce the desire for getting “rewarded” from drugs and other substances. And how can this all make you a better boss? Well, the study shows that positive reward increases an employee’s sense of pleasure. Therefore, your employees, apart from the desire to do their jobs in the best possible way, will also greatly appreciate you. So make sure to put in that good word!

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Join our (natural) rewards program!

The brain has its own exclusive membership rewards program that helps to prevent and eliminate addictions. There is also an added bonus, better understanding how reward systems work can help make better bosses! Prof. Galit Shohat-Ophir of the Mina and Everard Goodman Faculty of Life Sciences and the Leslie and Susan Goldschmidt Multidisciplinary Brain Research Center (Gonda) studies the brain reward systems that are essential for our survival, such as eating, drinking, social behavior and the caring of offspring. These behaviors give us natural rewards—a sense of pleasure which is caused by an increase in the level of Type-Y neuropeptides. Similarly, drugs stimulate brain systems to produce natural rewards, resulting in addiction.

Replenishing reservoirs of natural rewards from positive feedback and spending time with friends can reduce the desire for getting “rewarded” from drugs and other substances. And how can this all make you a better boss? Well, the study shows that positive reward increases an employee’s sense of pleasure. Therefore, your employees, apart from the desire to do their jobs in the best possible way, will also greatly appreciate you. So make sure to put in that good word!

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5G Cellular Networks to be Tested at Bar-Ilan’s Campus

Bar-Ilan is the first Israeli University to be granted a special license from the Israel Ministry of Communications to experiment in advanced technologies. These technologies include 5th Generation (5G), the latest generation of cellular connections which enables carrying a greater amount of data at a much quicker transfer rate; and the Internet of Things (IoT), which will enable devices like vehicles and home appliances to communicate and interact over the Internet.

The experiments will take place within the Smart Cities Impact Center, with the goal of advancing systems expected to improve our quality of life.

“Bar-Ilan provides exactly what we were looking for—an excellent platform for collaboration between research, development incubators and the applied world,” said Communications Ministry Director General Nati Cohen. “The transition to 5G is the great revolution. It’s not just an expansion of the breadth and quality of telephone surfing, it’s a revolution that will change our way of life.”

Law meets Big Data

Gone are the days when lawyers just pored through law books to research cases. The advent of Big Data science is expected to change the ways lawyers and legal scholars will work as labor-intensive tasks will become computerized.

The Faculty of Law’s lab for innovation in law, data science and information management, led by Dr. Ittai Bar-Siman-Tov, is the first of its kind in Israel to take a novel research approach, based on computer-based content analysis, to create evidence-based and adaptive policies.

The lab work is based on cooperation between researchers from the Faculty of Law and the Computer Science and Mathematics departments, as well as partners from technology companies and other industries and government agencies.

Even before its official inauguration in December 2019, many empirical legal studies have been conducted in the lab, which include machine learning; natural language processing and social network analysis; alongside normative and ethical analyzes of trial law, data regulation, and data analysis; and ensuring the proper management of information.
This is only the beginning...