



Research Group Maps Psoriasis-Associated Gene



Dr. Ohad Birk

A new gene associated with psoriasis and seborrheic dermatitis has been identified by a research group led by Dr. Ohad Birk of the Morris Kahn Laboratory of Human Genetics at the National Institute for Biotechnology in the Negev and Soroka University Medical Center.

The findings, which were reported in the June issue of *Nature Genetics*, allow new insights into the mechanism of disease in psoriasis and seborrheic dermatitis. In the long run, these insights are likely to assist pharmaceutical companies in developing “smart drugs” for these two common skin diseases.

Psoriasis and seborrheic dermatitis affect 2-3 percent of the population worldwide and 85 percent of AIDS patients. Both skin diseases are caused by excessive proliferation of specific cells in the skin. To date, there is very limited understanding of the molecular mechanisms causing these two common disorders. According to Birk, “This new gene is associated with a variant of psoriasis and seborrheic dermatitis and offers major molecular insight into why the specific skin cells (keratinocytes) proliferate excessively, causing these two common skin diseases.”

Birk’s two-and-a-half-year study examined an Israeli Moroccan Jewish family with 44 members over five generations who showed signs characteristic of psoriasis and seborrheic dermatitis.

Doctoral student Ramon Birnbaum analyzed DNA samples of the affected members of the family, comparing them to normal, un-mutated DNA. The team has succeeded in pinning the beginning of the molecular pathway on a mutation in a gene that is normally expressed, or “turned on,” in the keratinocytes.

The gene is believed to suppress or regulate cell proliferation and is thought to be a transcription factor, meaning that it switches on other genes, which may also play a role in the disease. When mutated, this regulation malfunctions, enabling excessive proliferation of skin cells and calling in cells of the immune system.

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Ben-Gurion Day
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Eight Honorary Doctoral Degrees Granted

Eight Honorary Doctoral Degrees were granted during the 36th Annual BGU Board of Governors Meeting. University President Prof. Rivka Carmi presented the degrees in recognition of the individuals' distinguished contributions to science and humanity.

Those honored included the initiator of the Casablanca Conference and advisor to the King of Morocco, André Azoulay; President of the Israeli Supreme Court, Justice Aharon Barak; founding Chairman of the Greater Texas Region of the American Associates of BGU, member of the BGU Board of Governors and Vice-President of the Association for Reform Zionists of



Clockwise from back row left: Stephen K. Breslauer, Yair Green, Morris Kahn, Michael Spence, Aharon Barak, Shlomo Mintz; Andre Azoulay; Orna Porat

America, Stephen K. Breslauer; member of the BGU Board of Governors and its Executive Committee, Israeli attorney Yair Green; Israeli entrepreneur and philanthropist and member of BGU's Ben-Gurion Society, Morris S. Kahn; child prodigy and renowned violinist,

conductor and musical judge, Maestro Shlomo Mintz of Israel; Nobel Prize laureate in economics and former Dean of the Graduate School of Business at Stanford University, Prof. A. Michael Spence of the USA; and Israel Prize laureate, actress Orna Porat.

Prof. Rivka Carmi Elected President



Prof. Rivka Carmi was officially elected the Sixth President of Ben-Gurion University of the Negev on May 29th, when the University's Board of Governors ratified her appointment at the Opening Plenary Session of its 36th Annual Board Meeting. This is the first time that a woman has been elected to head an Israeli university.

Carmi had been serving as Acting President since her return from sabbatical in February 2006, following a decision in late December 2005 by the University's Executive Committee. The Committee approved the recommendation of the Presidential Search Committee that she succeed Prof. Avishay Braverman, who left the

University to run in the March 2006 elections and currently serves as a member of Knesset.

Prof. Carmi, a pediatrician and geneticist, made history in 2000 when she was elected the first female dean of a Faculty of Health Sciences in Israel. She is a senior member of both the Faculty of Health Sciences as well as the Soroka University Medical Center in Beer-Sheva. A graduate of the Medical School of the Hebrew University of Jerusalem, she completed her residency in genetics at Harvard University.

For highlights of the 36th Annual Board of Governors meeting, see the upcoming Fall issue of *BGU Now*.

Prof. Yael Edan Named Deputy-Rector

In April, Prof. Yael Edan was appointed to the position of Deputy-Rector, replacing Prof. Shraga Segal, who passed away suddenly in February 2006.

For the last six years, Edan has served as Chairperson of the Department of Industrial Engineering and Management. She received her doctorate from Purdue University and holds a Masters degree in Agricultural Engineering and a Bachelors degree in Computer Engineering from the Technion. She has been a member



Prof. Yael Edan

of the Department of Industrial Engineering and Management since 1993.

Her research focuses on robotics, sensors, simulation, computer integrated manufacturing and intelligent automation in agriculture. Edan has instructed and continues to guide many graduate and post-graduate students. She

has received accreditation for a number of patents and has dozens of scientific publications in Israeli and international journals.

Israeli-Jordanian-Palestinian Project Wins U.S. Grant

The U.S. Middle East Regional Cooperation Program (MERC) has awarded a \$460,000 grant to a research team from the Faculty of Health Sciences for a regional project that simultaneously aims to help children with cerebral palsy and promotes Arab-Israeli coexistence and cooperation.

The project investigates different approaches to improving motor function in children with cerebral palsy. Headed by Prof. Jacob Kaplanski and Dr. Simona Bar-Haim of the Faculty of Health Sciences, the research team is preparing to carry out their work simultaneously at three children's rehabilitation centers: the Al-Hussein Society Rehabilitation Center, Amman, Jordan; the Basma Rehabilitation Center in Jerusalem; and the Child Development and Rehabilitation Center at the Assaf Harofeh Medical Center in Israel. The research is being developed in partnership with Ms. Netta Harries of the Movement Research Laboratory at Assaf Harofeh Medical Center.

The fifth partner in the research is the Foundation for Research and Education on subjects connected with Children with Cerebral Palsy in the United States (UCP Research Foundation), which has extensive research experience in this field.

Children taking part will receive intensive treatments throughout the period of the research. Their functional outcomes will be measured and analyzed. Courses will be run and meetings held between therapists and researchers from the University and the three rehabilitation centers.

The project was launched in February 2006 with an opening conference held in Aqaba, Jordan, under the auspices of and with the participation of Princess Magda Raad, chairperson of the Al-Hussein Society, Jordan (AHS).

Founded in the wake of the Camp David Accords as part of USAID, the MERC Program nurtures research connections between Israel and its Arab neighbors.

Book on Soviet Jewry Recognized

A book by Prof. Fred Lazin, Chairman of the Department of Politics and Government and incumbent of the Lynn and Lloyd Hurst Family Chair in Local Government, was recognized as the best book published in English on Israeli politics in 2005 by the Israeli Political Science Association.

Entitled *The Struggle for Soviet Jewry in American Politics: Israel versus the American Jewish Establishment*, the book examines the conflict between the Israeli government and the organized American Jewish community over the final destination of Soviet Jewish emigrés between 1967 and 1989.

Lazin documents the crucial role played by Israel's Liaison Bureau in fostering and guiding the movement on behalf of Soviet Jewry in the United States. He shows how American Jewish leaders resisted pressure from the Israeli government to stop aiding Soviet emigrés who, after leaving the USSR on visas for Israel, chose to go to America. The final section of the book explores the support given by American Jews for the controversial quota on Soviet Jewish refugees imposed by the United States government in 1989. That quota, supported also by the Israeli government, led to immigration to Israel of almost one million Jews from the former Soviet Union.

Prof. Yigal Ronen Named to Russian Academy

Prof. Yigal Ronen, Dean of the Faculty of Engineering Sciences and a member of the Department of Nuclear Engineering, has been selected as a foreign member of the prestigious Russian Academy of Engineering.

Ronen serves as the Vice President of the International Euroasian Academy of Science and President of the Israel Nuclear Society. His research interests include theory and concepts of nuclear reactors and transport theory. At BGU, he has served as Dean of the Kreitman School of Advanced Graduate Studies and as Vice-Rector of the University.

Researcher Wins Career Development Award

Dr. Gonen Ashkenasy of the Department of Chemistry has received the prestigious Career Development Award of the Human Frontier Science Program (HFSP).

Ashkenasy did his post-doctoral training at the Scripps Research Institute in the U.S., working with novel assemblies of peptides. His research concentrates on *de novo* functional peptides and proteins.

The HFSP supports novel, innovative and interdisciplinary basic research focused on the complex mechanisms of living organisms. Topics range from molecular and cellular approaches to systems and cognitive neuroscience. It encourages novel collaborations that bring biologists together with scientists from fields such as physics, mathematics, chemistry and computer and engineering sciences to focus on problems at the frontier of the life sciences.



Record Number of Doctoral Degrees Conferred

A record number of Doctoral Degrees were conferred last month as 208 graduates received their Ph.D.s from the Kreitman School of Advanced Studies, as compared to 101 a year and a half earlier. This significant increase is a reflection of the University's policy to increase the number of students studying for advanced degrees. The breakdown by Faculty is as follows: Humanities and Social Sciences, 73; Natural Sciences, 45; Engineering Sciences, 40; Health Sciences, 37; School of Management, 6; Interdisciplinary Studies, 7.

Among the graduates was Sarab Abu-Rabia-Queder, who became the first Bedouin woman in Israel to receive a Ph.D. Her area of research was education of women in the Bedouin community.

At the ceremony for the Joyce and Irving Goldman Medical School, one week

earlier, 59 new doctors received their degrees as M.D.s, including Dr. Rania Okabi, who made history by becoming the first female Bedouin in Israel to become a medical doctor.

During the same week, an impressive 5,278 new graduates received their undergraduate degrees in two days of festive campus-wide ceremonies. This record-breaking number is the largest graduating class in the University's history.

The breakdown by Faculty is as follows: Humanities and Social Sciences, 2,151; Natural Sciences, 480; Engineering Sciences, 1,238; Health Sciences, 510; School of Management, 864; and 35 graduates who received their Masters degrees from the Albert Katz International School for Desert Studies at the Jacob Blaustein Institutes for Desert Research in Sede Boqer.

New Program Trains Arab Israeli Journalists

The first comprehensive workshop in journalism for Israeli Arab citizens, organized by the Chaim Herzog Center for Middle East Studies and Diplomacy and the *Ha'aretz* daily newspaper, took place over the past academic year.

The unique program aims to provide aspiring Israeli Arab journalists with high-level professional training in writing and editing, with the goal of integrating its graduates into the Hebrew or Arabic-language press in Israel.

"Our measure of success is turning out students who can write well and cover issues professionally, at the highest journalistic level, whether from Tel Aviv, Haifa or Peki'in," said Dr. Zvi Barel, the *Ha'aretz* journalist who co-organized the course together with Center Chairman Dr. Yoram Meital. "We have established a group of professionals who could start work immediately, writing in Arabic, Hebrew and English. Over the year, they were provided with the most up-to-date

tools to learn how to write and analyze a story and to practice their skills."

The course, whose participants had no previous training in journalism, was created to provide in-depth knowledge and understanding of the Israeli society and culture and its complexities, equipping the future journalists with the professional insights and journalistic sensitivity to take the pulse of both the majority (Jewish) and minority (Arab) way of life and experience.

The goal, according to Meital, is to "help break what is perceived as a 'vicious circle' in which prejudices and negative images of the Israeli Arabs among the Jewish population and an inclination toward social insularity and political alienation among the Arab population are intensifying a lack of communication, a greater degree of isolation and the emergence of two different and hostile societies." A second course is planned for next year.

Belmaker Elected President of International College

Prof. Haim Belmaker, incumbent of the Hoffer/Vickar Chair in Psychiatry from the Faculty of Health Sciences, was elected President of the International College of Neuropsychopharmacology. A worldwide association of approximately 1,000 members from 57 countries, it is the premier society in the field.

The CINP consults with the World Health Organization in setting goals and standards for medication treatment of emotional and behavioral disorders. There are 16 members in Israel.

About one-third of the members are psychiatrists, one-third are laboratory researchers of drug effects and one-third are research psychologists. Members are elected after showing accomplishment in the field.

The organization promotes development of new medications for the treatment of mental and emotional disorders and scientific evaluation of existing treatments. It collaborates with the pharmaceutical industry but is independent of the pharmaceutical industry and critical when necessary.

U.S. Scholar Studies the Secrets of Israeli Success

Israel is known and respected internationally as an economic success story and Prof. Joseph Pelzman came to BGU for a year-long stay to find out why. Pelzman, a professor of economics, international affairs and law from George Washington University, received a Fulbright Scholarship to conduct research at the School of Management exploring how Israel achieved its fiscal independence while all other developing countries have failed.

Pelzman attributes the Israeli success story to the system of tax collection by employers. "Developing countries all suffer from a similar fiscal problem," he explains.

"Because of their ineptitude at internal tax collection, government finance is derived from border taxes like import levies and customs duties. These levies effectively impede the development of their economies, therein prolonging their underdevelopment. Israel is the only developing economy that managed to shift successfully from a dependence on border levies to internal taxation, thus promoting growth and economic independence."

"Once we figure out how it worked, the Israeli model could be used by other developing countries to kick-start their economies."

During the year, Pelzman has been teaching macroeconomics in the Honors MBA program while meeting with personnel from the Treasury, the Ministry of Finance and the Income Tax Authorities in order to examine the methods employed over the years that achieved the switch. "By looking at techniques, legislation, tax levels and other factors, we can build a model for implementation elsewhere," he says.

NEWS

The Sound of One Hand Clapping



Dr. Ron Folman

According to findings of a team of researchers and students in the Atom Chip Laboratory, headed by Dr. Ron Folman, one can clap with just one hand.

Their work, which revisits the foundations of quantum mechanics, was recently published in *Physical Review Letters*, a leading scientific journal in physics published by the American Physical Society in the United States.

More precisely, the group revisited an experiment known as the “double slit experiment” in which a single probe particle goes through two slits at the same time – without splitting itself. The particle thus forces itself to be in two places at the same time.

This is called a quantum superposition and may occur only under conditions in which quantum mechanics is

dominant over the classical mechanics which governs day-to-day life.

Folman, a member of the Department of Physics and the Ilse Katz Center for Meso- and Nanoscale Science and Technology, and his team – that included two researchers and one undergraduate student – went a step further and asked what would happen if, just like the single particle which can

apparently be in two places at the same time, a single slit would be put in two places at the same time? Would the particle still see two slits and force itself to be in two places at the same time?

The team’s findings showed that the probe particle would see two slits (though there is actually only one) and would go through both of them at the same time. This phenomenon, in which a single body affects its surroundings as if it were in two places at the same time, may be visualized as one hand clapping as two.

Experiments into the foundations of quantum mechanics are ongoing at the Atom Chip Laboratory utilizing cutting-edge chip fabrication technology in the newly formed Weiss Family Laboratory for Nanoscale Systems www.bgu.ac.il/nanofabrication.

The full paper may be downloaded from www.bgu.ac.il/atomchip

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B.G. Negev Technologies Signs Agreement with Invitrogen Corp.

An agreement has been signed with Invitrogen Corporation to produce products for the Biotech/Pharma research and production market using an alginate scaffold developed by Prof. Smadar Cohen and her research team.

According to the agreement between the University’s technology transfer company B.G. Negev Technologies and the international biotech company, Invitrogen Corporation will develop products based on this alginate scaffold (a natural polymer derived from algae) to promote tri-dimensional cell growth.

Cohen, Chairperson of the Department of Biotechnology Engineering and a member of the National Institute for

Biotechnology in the Negev, along with Lilia Shapiro and Dr. Rachel Glicklis, both from BGU, developed a scaffold made from a natural polysaccharide alginate, a natural substance derived from algae.

According to Vice President of Business Development at B.G. Negev Technologies, Dr. Ora Horovitz, this is only the beginning of a pipeline of products to be developed using the alginate scaffolds.

The scaffold is used to create a wide range of different tissues through the use of cells from different sources. Implantation of a layer of thin, flat cells that lines the interior surface

of blood vessels called endothelium enables the creation of capillary blood vessels. Cardiomyocytes implanted into the alginate have been shown to start beating 24 hours after implantation. The team, headed by Dr. Tsiona Elkayam, has recently shown that the alginate scaffold not only provides the optimal greenhouse for specific cells from different sources, but even helps stem cell expansion and differentiation.

Founded in 1987, Invitrogen is headquartered in Carlsbad, California and works with businesses in more than 70 countries. The company provides essential life science technologies for disease research, drug discovery and commercial bio-production.

Reunion Highlights Graduates’ Varied Talents



Graduates competed in nostalgia and karaoke at the first-ever reunion.

Nostalgia was in the air at the first reunion of the alumni of the Department of Industrial Engineering and

Management. The gathering included alumni from every graduating class since the founding of the Department

in 1973. From the earliest graduates to those who only recently left campus, the visitors enjoyed a tour of the Marcus Family Campus and the Department’s impressive new laboratory and research facilities.

Talents other than engineering were on display: entertainment at the event included music provided by an all-alumni band and a karaoke competition.

This is just one of the many events organized by the University’s Alumni Association.

To become a member or receive more information about the Alumni Association’s many activities – including discounts, cultural events or to access its online job postings – click to www.bgu.ac.il/alumni

Symposium Examines Tragic Toll of Malaria

The terrible toll of malaria was discussed at the Fourth Annual Symposium in Memory of Moshe Prywes, organized by the Moshe Prywes Center for Medical Education at the Faculty of Health Sciences. Entitled “The Global Impact of Malaria,” the conference outlined the scope of malaria epidemics and examined strategies to fight the disease.

Dean of the Faculty Prof. Shaul Sofer welcomed the 100 participants by noting that “the early pioneers of the modern Zionist enterprise” were able to eradicate the disease – which was once very predominant – “in such areas known today as Emek Hefer, Emek Yizre’el and the Galilee.” But in Africa, he explained, malaria remains

a prominent and deadly problem. It is a tremendous drain on many national economies of the poorer nations, maintaining a vicious cycle of disease and poverty.

Speakers from abroad included leaders in the battle against the disease such as the Director of Africa Fighting Malaria, Richard Tren; the Founder of Malaria International, Prof. Mary R. Galinski; and the Founder of Hedge Funds Against Malaria, Lance Laifer.

Lack of resources and political instability have prevented the building of solid malaria control programs in these countries in addition to the fact that malaria parasites are increasingly resistant to anti-malarial drugs,

presenting one more barrier to malaria control in the African countries south of the Sahara.

At the symposium, the clinical aspects of malaria were presented by BGU’s Prof. Mick Alkan, who has treated patients in countries around the world where malaria is a problem.

Dr. Sigalit Hoffman, a recent graduate of the BGU Medical School for International Health, reflected on her experiences fighting the disease in Kenya. Prof. Tamar Golan, who served as an Israeli ambassador to nations in Africa as well as many years as a journalist on the continent before joining the BGU faculty, surveyed the myriad of problems facing the region.

NEWS

Prof. Robert Glaser Teaches Course in Advanced Chemistry in Myanmar



Prof. Robert Glaser (first row, third from left) with his students.

Myanmar (the former Burma) is a mysterious country with a military regime that has prevented long stays in the country by tourists and has generally forbidden outsiders to delve too deeply into its society. But Prof. Robert Glaser from the Department of Chemistry recently became one of the first foreign professors to teach a university-level course in that country and the first ever to do so at the University of Mandalay, where he taught an intensive one-week course on "Special Topics in Advanced Stereochemistry."

The foundation for the visit was built last year when Prof. Thida Win, a UNESCO-funded researcher from Myanmar, was at BGU working in the Department of Chemistry. Glaser's week-long stay was organized by the Ministry of Higher Education of Upper Myanmar with the encouragement and assistance of the Israel Ministry of Foreign Affairs. Final approval for his

visit had to be given at the cabinet level of the Myanmar government.

The gala opening ceremonies of the course were attended by the Director-General of the Ministry of Higher Education as well as other professors, rectors and Ministry of Education officials from the Mandalay region. As a gesture of good-will and bilateral cooperation, Israeli Ambassador to Myanmar Ruth Shatz flew to Mandalay from the capital of Yangon (formerly Rangoon) to attend the opening lecture.

Glaser opened his course by noting that the State of Israel has special feelings of gratitude towards the Burmese people, as Burma was one of the first countries to extend the hand of friendship to the nascent Jewish state in the early 1950s. In 1955, Burmese Prime Minister U Nu paid a state visit to Israel and met with David Ben-Gurion at his home in Sede Boqer. In 1961, Ben-Gurion made a reciprocal visit to Burma.

The course dealt with the influence of the three-dimensional structure and symmetry of molecules on their physical, chemical and pharmacological properties. Over 160 participants attended, with an audience comprised of professors and lecturers from other universities and institutions of higher education in Upper Myanmar.

The visit also marked the beginning of scientific cooperation between the research group of Glaser and Prof. Win, now of the Department of Chemistry at the University of Mandalay and Dr. Khim Phyu Phyu, Deputy Director of Medical Research in Upper Myanmar.

The collaboration encompasses the structure determination of natural products isolated by the Mandalay scientists from Myanmar medicinal plants. Preliminary efforts have already found that one of the isolated compounds exhibits therapeutic activity against two strains of malaria that is four times greater than that shown by standard treatment with quinine sulfate.

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