THE KAYE INNOVATION AWARDS

THE HEBREW UNIVERSITY OF JERUSALEM

At the Hebrew University of Jerusalem

JULY 2020 | אב תש"פ

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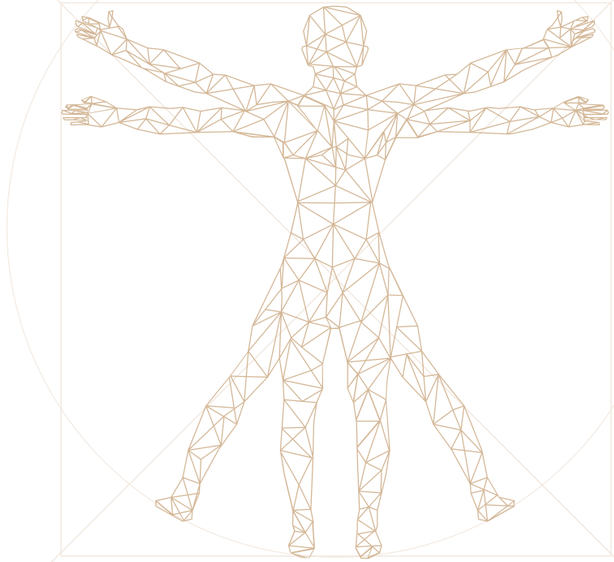

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Isaac Kaye

Isaac Kaye is a pharmaceutical chemist who has been very successful at translating novel ideas into profit-generating products.

He established Norton Healthcare, a substantial generic pharmaceutical company in the UK, which later merged with the IVAX Corporation of the USA. Teva, Israel's biggest company, completed its acquisition of IVAX in 2006, creating the world's largest generics company.

After retiring from IVAX, he turned his attention to venture capital and together with partners founded Israel Healthcare Ventures (IHCV), a provider of capital to early and expansion stage Israeli companies. IHCV focuses exclusively on healthcare and life sciences.

Isaac Kaye's passion for medical innovations that advance human healthcare is matched by a number of other interests, including his love of Israel and its people and his enthusiasm and support for The Hebrew University of Jerusalem and the principles upon which it is based. Fortunately for The Hebrew University, Isaac Kaye's interests in pharmacology, new chemical entities and medical devices are very much in line with areas in which the University has considerable expertise and which it is eager to develop.

In 1995, the Isaac and Myrna Kaye Chair in Immunopharmacology at the School of Pharmacy was established, providing much needed research funds in this field. In 2005, he established five annual fellowships for outstanding graduate and post-doctoral students. "The Kaye-Einstein Fellowships" encourage recipients to continue their studies at The Hebrew University for a minimum of three years, helping to prevent the University's finest scholars from being recruited by other leading institutions. Subsequent to the first program of scholarships, five additional three year scholarships were awarded in 2010, and another five in 2013 to outstanding students as "Kaye-Einstein Scholarships." Yet another five commenced in 2016.

Isaac Kaye established the annual Kaye Innovation Awards in 1993. The awards have earned an esteemed reputation highlighting innovations with potential for income generation, principally through royalties for the University. Applications must be well focused and accompanied by recommendations but unlike grant proposals anyone from the most senior to the most junior staff may apply. Students are always encouraged to submit proposals. The winners demonstrate not only good science but also a focus on commercial viability and the benefits this brings to the University.

Isaac Kaye has always been active on behalf of The Hebrew University. He served as Chairman of the South African Friends organization and became an active member of the University's Board of Governors. Following his move to the UK, Isaac Kaye joined the British Friends and continued as a member of the Board of Governors of The Hebrew University. He is currently Chairman of the British Friends. Our University is deeply indebted to both Isaac and Myrna for their deep involvement and devotion to this institution.

Yissum: Celebrating 56 Years of Research Collaborations & Commercialization

Yissum, the technology transfer company of the Hebrew University, has led international and Israeli tech transfer for over 56 years. We are recognized worldwide for having spun out over 170 portfolio companies, registering 10,750+ patents, and licensing over 1000 technologies.

We are honored to be partners in the Kaye Awards Selection process for the past 26 years. These prestigious awards are given to inventors from the Hebrew University Faculty who are solving real-world problems by joining scientific excellence with successful commercial vision. These inventors have produced the ground-breaking science behind some of Yissum's most successful start-ups.

Prominent international organizations consider food security a major challenge in the 21 century. Some statistics put losses sustained from post-harvest spoilage of fruits and vegetables well over 50%. For this reason, the first prize award is given to Prof. Amos Nussinovitch for his 30+ year research to develop edible films and coatings for fruits and vegetables that significantly extend their post-harvest shelf life. Prof. Nussinovitch has developed several families of edible films and coatings for fruits and vegetables produced at large scale, as well as the relevant technology needed to apply the coatings. Yissum spin-out, Sufresca, was founded based on Prof. Nussinovitch's research. Sufresca offers products to extend fruit and vegetable shelf life thus limiting food waste and also reducing the need for plastic packaging.

The past decade has witnessed an explosion of cannabinoid pharmaceutical products, and Hebrew University researchers have been on the forefront of this medical transformation. The second prize goes to Prof. Elka Touitou who has created a rich portfolio of breakthrough technology for delivery systems for advanced cannabinoid pharmaceutical products bringing great value to the pharmaceutical industry. Prof. Touitou has invented new delivery methods for proven beneficial cannabinoid products which could previously only be delivered through solvents, oils, or syringes. Her transdermal, nasal, oral and rectal delivery methods now allow proven cannabinoid products to be used medically against ailments including pain, neurological diseases, sleep, appetite and mood disorders, anxiety, inflammatory diseases and stress. Her inventions are based on her discovery of the physical interaction between cannabinoids and an amphiphilic molecule allowing for new carriers of cannabinoid transmission.

Prof. Ruth Gallily, the recipient of the third prize this year, has discovered ways in which cannabidiol (CBD) can be used as a powerful anti-inflammatory and analgesic, especially in the treatment of diabetes and weight loss. Her research has led to 21 patents, and she recently signed a license agreement with British Company, CannbioRx, to research the anti-inflammatory effects of CBD to treat patients suffering from autoimmune diseases.

The Kaye prize is also awarded to two excellent students: Mr. Amijai Saragovi for his research on a novel strategy that enables T cells to utilize alternative carbon sources for glucose and to Ms. Orit Berhani for her research on a new immunotherapy involving natural killer cell and bi/tri specific antibodies.

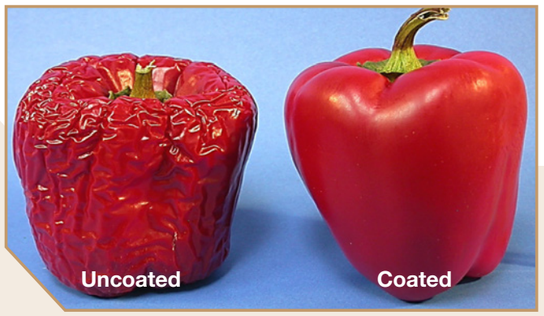
Mr. Kaye's generosity and personal commitment to support to Hebrew University's researchers in their quest for innovation continues to inspire us. We offer him our deep gratitude and extend our hearty congratulations to this year's prize winners.

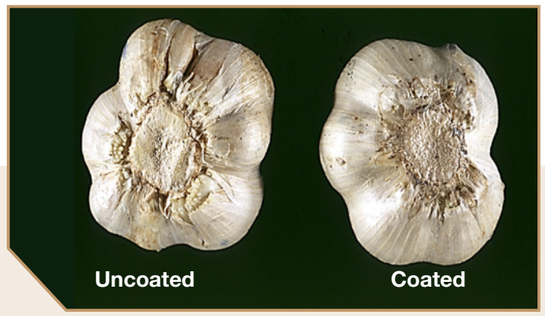
Dr. Itzik Goldwaser
President & CEO

1st Prize
Researcher

Prof. Amos Nussinovitch

Prof. Amos Nussinovitch was born in Kibbutz Megiddo, Israel, and studied Chemistry at the University of Tel Aviv and Food Engineering and Biotechnology at the Technion-Israel Institute of Technology. Prof. Nussinovitch has worked as an engineer at several companies and has been involved in numerous R&D projects, both in Israel and overseas. He continues to act as a consultant for food and biotechnology companies, personally contributing to many successful products and projects. Prof. Nussinovitch single handedly initiated the Food Technology & Food Physics classes at the Hebrew University, and also leads a large research group focused on the theoretical and practical aspects of edible coatings & hydrocolloid applications in food. He has repeatedly been acknowledged as an outstanding lecturer by the Hebrew University, and is the sole author of 7 books, and had published 137 scientific manuscripts, and holds 30 patents. He is also a recipient of a lifetime achievement award from the Manufacturers Association of Israel for his unique and considerable contributions to both academia and the food industry.





Developing edible protective films to extend postharvest shelf life of fresh and processed fruit and vegetables

Up to 35% of harvested fresh fruits and vegetables are lost due to spoilage. This results in severe economic waste in developed countries and has devastating consequences in many tropical regions. One method of extending postharvest shelf-life is the use of edible coatings. Such coatings are made of edible materials that can enrobe fresh produce, thus providing a semipermeable barrier to gases and water vapor. While no one coating is optimal for all fruits and vegetables, coatings can be tailored to account for differences in cuticle composition, surface roughness, rates of respiration and transpiration, etc.

Combining knowledge from post-harvest fruit physiology, storage techniques, material sciences, chemistry, and physics, Prof. Nussinovitch and his team, who have been focused on the topic of edible films and coatings for the past 30 years, have developed several novel and innovative coating families and the technologies needed to apply them. Such coatings include a special film packaging for garlic/onion and other bulbs; unique coatings for peppers; film/bandages for damaged pomegranate arils and other wounded vegetative tissue, and coatings for tropical fruits and organic citrus.

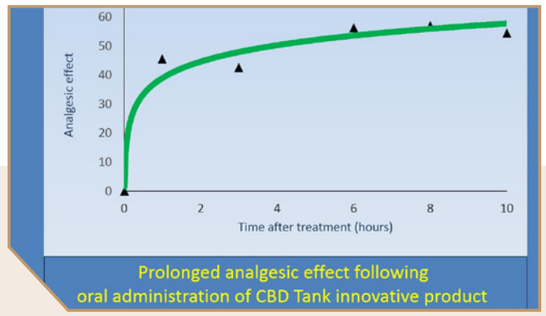
Nussinovitch and his team have successfully developed innovative, customizable patented coatings for a wide variety of produce. This has attracted commercial interest from industry and agricultural bodies alike, mostly due to the many advantages of the large scale application of such coatings, namely shelf life extension, decreases in weight loss, extension of market availability for export, prevention of insect infestation, improved appearance/gloss, and even the replacement of plastic packaging materials with biodegradable alternatives.

2nd Prize
Researcher

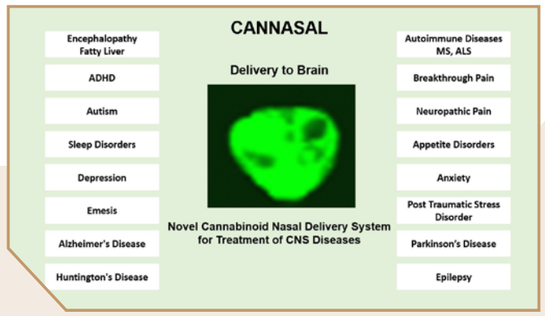
Prof. Elka Touitou

Professor Elka Touitou is the Head of the Dermal / Transdermal and Transmucosal Drug Delivery Laboratory at the Institute of Drug Research, the Faculty of Medicine, The Hebrew University of Jerusalem. She is an internationally recognized authority in the field of drug delivery, and in the design of advanced technologies for nasal / transdermal cannabinoid applications. Prof. Touitou is recognized worldwide as a pioneer in transdermal cannabinoid research.

She has served on the Board of Directors of the Controlled Release Society (CRS), and as President of the Israeli Controlled Release Society (ICRS). She is a CRS Fellow, and has organized and chaired scientific meetings in Israel and abroad. Prof. Touitou is the recipient of several prestigious awards, and has been honored as one of the leading innovators at the Hebrew University. She is on the Scientific Advisory Board of several dermal and cosmetic companies, and has published more than 100 original scientific research papers, reviews, books, editorials, and chapters. As an inventor, Prof. Touitou holds numerous international patents.



Prolonged analgesic effect following
oral administration of CBD Tank innovative product



Breakthrough Technologies for Novel Pharmaceutical Cannabinoid Products

The IP of these inventions covers a portfolio of breakthrough technologies answering the need for new efficient cannabinoid pharmaceutical products for the treatment of serious ailments. The inventions are based on the discovery of a unique physical interaction between cannabinoids and an amphiphilic molecule, thus enabling the design of novel carriers for new pharmaceutical cannabinoid products. The compositions contain FDA approved pharmaceutical materials.

These new cannabinoid delivery systems can be modulated for administration by various routes: CANNASAL for nasal administration, TANK CANNABINOID for oral prolonged action, and CANNAWEB for dermal/transdermal compositions. Through this versatility of novel dosage forms we can answer unmet needs, enabling the products to be tailored for the enhanced delivery of cannabinoids to different organs for various treatments.

CANNASAL is a new nasal carrier for cannabinoid delivery to the brain. Efficient cannabinoid delivery to the brain is critical for treatment of many CNS diseases including pain, anxiety, post-traumatic stress disorder, and encephalopathy induced by fatty liver.

The new compositions have the unique properties of (1) a quick onset of action and (2) the ability to allow nasal administration of high doses of cannabinoid.

Cannabinoid oral or mucosal products currently in use are effective for only a few hours. The TANK CANNABINOID oral composition is effective soon after administration and remains effective for a period of at least ten hours. This prolonged effect is explained by a special property of TANK CANNABINOID which, upon hydration in the GI tract, remains non-disintegrated, slowly releasing small particles that transport the cannabinoid. A prolonged effect is of extreme importance in many treatments such as pain, anxiety, and depression.

Upon application to the skin, CANNAWEB generates cannabinoid reservoirs, enabling prolonged effective treatments. This novel technology, being both efficient and safe, is an important advance in the design of new topical and transdermal cannabinoid products.

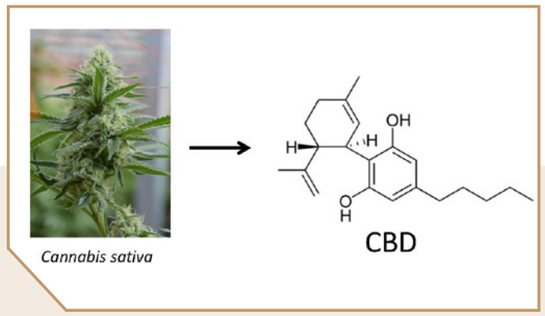
The novel technologies so-far tested in animal models for various ailments are currently at the stage of ready formulations for further testing.

3rd Prize
Researcher

Prof. Ruth Gallily

Prof. Gallily completed her M.Sc. in 1956 at the Hebrew University in Biology & Biochemistry, and her Ph.D. thesis at the Weizmann Institute was on the Genetics of Tumor Transplantation. Her Postdoctoral Research began in 1957 at the Sloan Kettering Institute in New York. In 1962, she was a Fellow / Research Associate at the Weizmann Institute Department of Immunology, and from 1971 on she was a researcher in the Department of Immunology at the Hebrew University. Initially, Prof. Gallily studied cancer, in particular aspects relating to chromosomes and the translatability of tumors. Starting in 1967, Prof. Gallily researched various topics relating to macrophages, their role in the induction of antibody production, their antigen presenting properties and cytotoxic activities, and their involvement in cancer and inflammation.

In recent years, she has been involved, in collaboration with Prof. Raphael Mechoulam, in research on the effect of cannabinoids (natural and synthetic) on autoimmune diseases, pain, and metabolic functions.



Cannabidiol as a Major Drug for Anti-Inflammatory and Autoimmune Diseases

Cannabidiol (CBD) is one of the main compounds found in Cannabis sativa and has no psychotropic properties. Our laboratory, as well as others, has demonstrated its anti-inflammatory properties in various mouse models of human disease. In addition, we have shown that CBD exhibits anti-radical activities in vitro. Specifically, CBD reduces the production of both reactive oxygen species (ROS) and reactive nitrogen species (RNS).

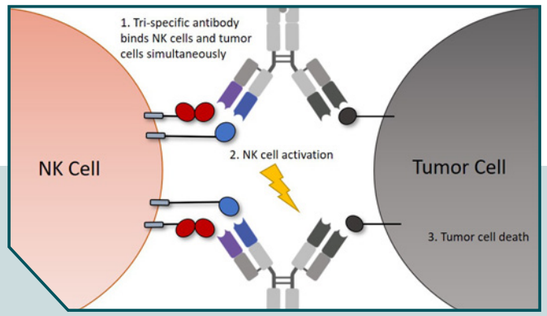
We have shown that CBD reduces many of the inflammatory manifestations occurring in autoimmune diseases. CBD markedly reduced the symptoms of rheumatoid arthritis (RA) in DBA/J mice and protected their bones from degradation. The level of protection was very similar to that achieved with anti-tumor necrosis factor therapy. Also, spontaneous diabetes in NOD mice was markedly inhibited. The survival rate of mice treated with CBD was 67% compared to 0% in control mice. Studies using the EAE mouse model of human multiple sclerosis also demonstrated a very marked improvement of disease symptoms following CBD treatment.

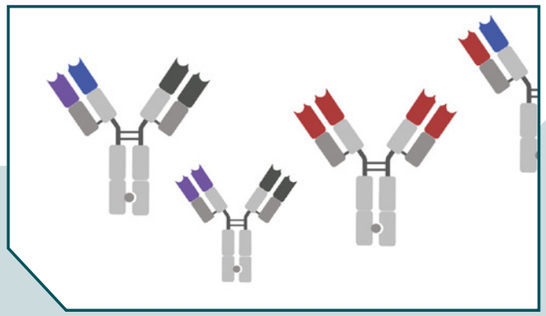
We believe that our findings showing beneficial effects of Cannabidiol in various inflammatory conditions have paved the way for treatments in human patients suffering from autoimmune diseases. It is important to note that experiments performed at the NIH and elsewhere show that CBD is essentially non-toxic, and no LD50 exists for this molecule. This lack of toxicity makes CBD an attractive candidate compound for clinical applications.

1st Prize
Student

Orit Berhani

Orit Berhani is a Ph.D. student in Prof. Ofer Mandelboim's lab at the Lautenberg Center for Immunology and Cancer Research, The Hebrew University of Jerusalem. She received her B.Sc. in a Combined Program of Chemistry and Biology, and her M.Sc. in Molecular and Structural Biochemistry from The Hebrew University of Jerusalem, where she researched the potential of RNA-based cancer therapeutics. After one immunology course during her M.Sc., Orit decided to pursue her doctoral studies in this field, where basic research has significant translational applications. She was the recipient of an Excellence Scholarship for Ph.D. studies in 2015 and has three first-author works published, with additional projects on their way to publication. Orit is also a named co-inventor in a patent by Yissum and Prof. Mandelboim titled "Anti-NKp46 Antibodies, Toxin Conjugates, and Therapeutic use of Same," and another patent relevant to this prize is currently being drafted.





Natural Killer Cells as an Immunotherapeutic for Targeted Cancer Therapy

Natural Killer (NK) cells roam our bodies in search of damaged cells and have emerged as one of the most crucial first responders to tumors and pathogenic infections. NKp46 is one of the most important activating receptors found on NK cells. It mediates effector activity against many targets since it recognizes tumor, viral, bacterial, and fungal ligands.

NK cells have the innate ability to kill almost any tumor cell in their vicinity. In order to exploit this ability, we are generating bi- and tri-specific antibodies which would tether NK cells to any tumor target of our choosing. These antibodies would jointly bind tumor and NK cells, with one arm of the antibody targeted against a specific tumor antigen and the other arm binding NKp46 and/or any other activating molecule of choice (for bi- or tri-specific antibodies, respectively).

There has been great interest in developing bi-specific NK cell antibodies, and several of these have shown great promise in treating Hodgkin lymphoma (phase I clinical trial), triple-negative breast cancer (pre-clinical studies), and acute myeloid leukemia (pre-clinical studies). Currently there are no FDA approved tri-specific antibodies, but many of the those under investigation target NK cells as the main effector and are referred to as either 'tri-specific killer cell engagers' (TriKEs) or 'NK cell engagers' (NKCE).

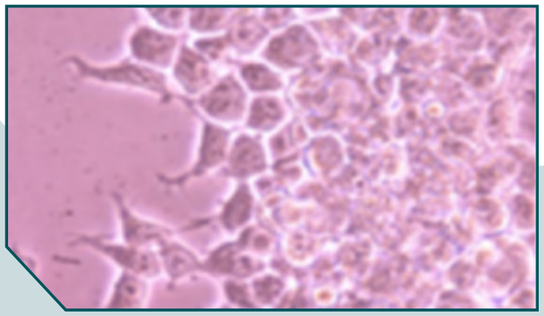
For our bi-and tri-specific antibodies, we will employ two anti-NKp46 antibodies that we have generated, named hNKp46.09 and hNKp46.12. These antibodies strongly and specifically bind NKp46, but they do not interfere with the receptor's ability to bind its tumor ligands. Therefore, not only will they bring NK cells in contact with a given tumor cell, but they will also preserve the ligand-mediated activation of these cells via the very powerful NKp46 activating receptor.

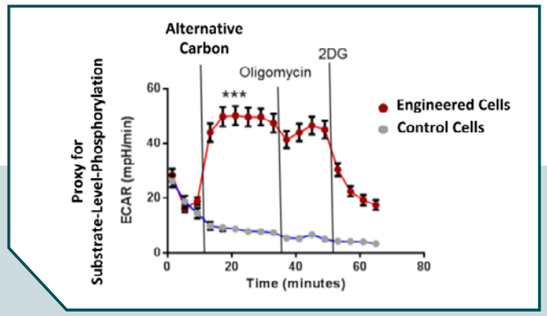
Enhancing our bodies own defenses by utilizing NK cells in immunotherapeutics using these specially-designed antibodies holds remarkable potential in the treatment of a wide range of cancers. Excitingly, a patent for this approach is already underway.

1st Prize
Student

Amijai Saragovi

Amijai Saragovi completed his Ph.D. under the supervision of Dr. Michael Berger. His research has focused on the way metabolism affects immune and functional phenotypes of T cells, an immune cell capable of identifying and killing infected or malignant cells. During his Ph.D. studies, Dr. Saragovi worked on three major projects investigating various aspects of T cell metabolism which are currently in the processes of preparation and submission for publication. He has also collaborated with other labs on five other projects, each of which has now been published. His diverse work in the field of immunometabolism has led to the development of a new strategy for adoptive cell therapy which has recently been registered for a provisional patent.





Devised a novel strategy that enable T cells to exclusively utilize alternative carbon source to glucose

Cancer and solid malignancies are a leading cause of death worldwide, accounting for an estimated 9.6 million deaths in 2018 alone. Adoptive Cell Transfer (ACT) is currently being evaluated in clinical trials with promising results. This type of therapy has the potential to treat various tumors which are currently incurable. However, a major obstacle for effective ACT in solid tumors is the metabolic exhaustion of T cells due to the glucose-deficient microenvironment associated with many solid malignancies. This is a difficult problem to resolve, as solid tumors quickly adapt to dominate their niche and thereby utilize most of the glucose in the microenvironment. Further, the approach of engineering T cells with increased levels of glycolytic enzymes is unlikely to yield significant benefits, since there is little glucose available to be metabolized. Inspired by metabolic networks in insects, Dr. Saragovi devised a novel strategy that will enable T cells to exclusively convert alternative carbon sources to glucose by engineering them with non-mammalian metabolic networks. Applying this strategy to cell lines, as well as to Jurkat T cells, has led to robust T cell proliferation in glucose-free media. These findings suggest that, in the future, this novel technology will enable T cells to continuously mediate effector function in order to remove various solid tumors in hypoxic, glucose-deficient microenvironments. Further, given that many other therapeutic cell types require glucose to function, this technology is expected to substantially improve other ACTs, including Natural Killer (NK) cell and stem cell based therapies. This innovation is expected to improve the effectiveness of precision therapies and to open a path to the next generation of engineered T cells for use in Adoptive Cell Transfer therapies for solid tumors.

KAYE – EINSTEIN SCHOLARSHIPS

2019/2020

First year recipients

Hagai Lavner, Ph.D. Candidate in Mathematics
Faculty of Science

Elad Romanov, Ph.D. Candidate in Computer Science
Benin School of Computer Science and Computer Engineering

Odelia Teboul, Ph.D. Candidate in Astrophysics
Faculty of Science

Eden Kamar- Zaidner, Ph.D. Candidate in Criminology
Faculty of Law

Continued recipient for 2019-2020

Lital Yona, Ph.D. Candidate
Paul Baerwald School of Social Work and Social Welfare

Previous Winners 1994-2019

Kaye Innovation Awards

at The Hebrew University of Jerusalem

2019

Inventor: **Prof. Yossi Paltiel**
The Quantum Nano Engineering Laboratory, Applied Physics Department
Invention: A generic way to synthesize and separate chiral enantiomers

Inventors: **Prof. Gabriel Nussbaum**
MD PhD. Expertise in innate immune signaling in infection and autoimmunity. Institute of Dental Sciences.
Prof. Amnon Hoffman
PhD. Expertise in bio-pharmaceutics, drug delivery and clinical pharmacy. Institute of Drug Research.
Prof. Chaim Gilon
PhD. World renowned expert in peptide chemistry, inventor of the backbone cyclization concept for peptide drug design and development.
Institute of Chemistry.
Invention: MyR-c(MyD 4-4), a novel cyclic peptide drug lead for autoimmune disease and cancer therapy

Inventor: **Prof. Oren Tirosh**
Redox Biology Lab.
Institute of Biochemistry, Food Science and Nutrition, Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Novel approach for safe preservation of meat products

Inventor: **Mr. Joshua Moss**
MD-PhD student under the mentorship of Prof. Yuval Dor at the Faculty of Medicine and Prof. Tommy Kaplan at the School of Computer Science and Engineering
Invention: A blood test to detect and localize cell death

Inventor: **Ms. Bat-El Cohen**
PhD student in Prof. Lioz Etgar's research lab
The Institute of Chemistry
Invention: Incorporation of 2D perovskite towered enhanced efficiency and stability in solar cells

2018

Inventor: **Prof. Uriel Levy**
Department of Applied Physics, Faculty of Science
The Harvey M. Krueger Family Center for Nanoscience & Nanotechnology
Invention: CMOS Compatible Low Cost Photodetection in the Short Wave Infrared (SWIR)

Inventor: **Prof. Yaakov Nahmias**
Department of Bioengineering, The Selim and Rachel Benin School of Engineering and Computer Science
The Alexander Silberman Institute of Life Sciences, Faculty of Science
Invention: Liver on a Chip Technology (Tissue Dynamics)

Inventor: **Prof. Ram Reifen**
The School of Nutritional Sciences
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: ChickP- The New Vegetarian Protein

Inventor: **Ms. Adi Reches**
Department of Immunology
Lautenberg Center for General and Tumor Immunology
Faculty of Medicine
Invention: Blocking Antibodies against Nectin4 as Cancer Immunotherapy

Inventor: **Mrs. Sivan Nir-luz**
Department of Chemistry, Institute of Chemistry
Faculty of Science
Invention: Simple Peptide Particles with Dual Antifouling and Antimicrobial Activity

2017

Inventors: **Prof. Yuval Dor and Dr. Ruth Shemer**
Department of Developmental Biology and Cancer Research,
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School.
Invention: Noninvasive Detection of Tissue Damage

Inventor: **Prof. Berta Levavi-Sivan**
Department of Animal Science,
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Growth and Reproduction in Aquaculture

Inventor: **Prof. Amiram Goldblum**
Institute for Drug Research, School of Pharmacy, Faculty of Medicine
Invention: A Novel Generic Algorithm Applied for Discovering Highly Active Drug Candidates

Inventor: **Mr. Ido Sagi**
Department of Genetics Alexander Silberman Institute for Life Sciences,
Faculty of Science
Invention: Haploid Human Embryonic Stem Cells and Somatic Cells

Inventor: **Ms. Suaad Abd-Elhadi**
Department of Biochemistry and Molecular Biology,
Institute for Medical Research Israel-Canada,
Hebrew University-Hadassah Medical School
Invention: Lipid's ELISA: A Highly Sensitive Diagnostic Assay for Parkinson's Disease

2016

Inventor: **Prof. Yoel Sasson**
Casali Institute of Applied Chemistry
Institute of Chemistry, Faculty of Science
Invention: Novel Reagent for Purification of Oil-Contaminated Soil

Inventor: **Dr. Meital Reches**
Institute of Chemistry, Faculty of Science
Invention: Biocompatible and Environmentally-Friendly Antifouling Materials

Inventors: **Prof. Reuven Reich, Prof. Eli Breuer, Prof. Amnon Hoffman**
Institute for Drug Research
School of Pharmacy, Faculty of Medicine
Invention: Novel Carbamoylphosphonate-Based Compounds for the Treatment and Prevention of Metastatic Diseases

Inventor: **Dr. Pinchas Tsukerman**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: New Immunotherapy Against Cancer

Inventor: **Mr. Oren Ben Dor**
Department of Applied Physics
The Rachel and Selim Benin School of Computer Science and Engineering
Faculty of Science
Invention: Chiral Molecular-Based Spin Devices

2015

Inventor: **Prof. Uri Banin**
Institute of Chemistry and the Harvey M. Krueger Family Center
for Nanoscience and Nanotechnology, Faculty of Science
Invention: Semiconductor Quantum Rods - A Quantum Leap for Displays

Inventor: **Prof. Ofer Mandelboim**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Development of Monoclonal Antibody against NKp46 for the Treatment of Type 1 Diabetes Mellitus (T1D)

Inventor: **Dr. Zvi Peleg**
Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Development of New Elite Sesame Cultivars Adapted for Mechanical Harvest with Enhanced Yield and Seed Quality

Inventor: **Dr. Elad Horowitz**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Methods of Predicting Efficacy of an Anti-VEGFA Treatment for Solid Tumors

Inventor: **Ms. Geula Hanin**
Department of Biological Chemistry, Silberman Institute of Life Sciences, Faculty of Science
Invention: Down Regulating miRNA-132 for the Treatment of Lipid Related Disorders

2014

Inventor: **Prof. Simon Benita & Dr. Taher Nassar**
Institute for Drug Research (IDR)
School of Pharmacy, Faculty of Medicine
Invention: Development of an Original Nano-Delivery Platform for Markedly Improving the Oral Absorption of Poorly Absorbed Drugs and Proteins

Inventor: **Prof. Shlomo Magdassi**
Casali Center for Applied Chemistry
Institute of Chemistry, Faculty of Science
Invention: Transparent Conductive Coffee Rings for Touch Screens

Inventor: **Prof. Michal Baniyash**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Invention: Novel Prognostic/Diagnostic Biomarkers for Detecting the Immune Status of Patients Suffering from Diseases Characterized by Chronic Inflammation and Associated Immunosuppression

Inventor: **Michael Brandwein**
Biofilm Research Laboratory
Institute of Dental Sciences, Faculty of Dental Medicine
Invention: Novel AntiBiofilm/Antibacterial Polymer for Food Packaging

Inventor: **Yotam Bar-On**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada
Hebrew University-Hadassah Medical School
Invention: Development of Novel Antibodies for the Treatment of Influenza Infections

2013

Inventor: **Prof. Ilan Sela**
Robert H. Smith Institute for Plant Sciences and Genetics
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Silencing of Bee-Affecting Viral Genes in order to Control CCD

Inventor: **Prof. Avi Domb**
Institute for Drug Research (IDR)
School of Pharmacy, Faculty of Medicine
Invention: Maze Water Purification System

Inventor: **Prof. Raym ond Kaempfer**
Department of Biochemistry and Molecular Biology
Institute for Medical Research Israel-Canada (IMRIC)
Hebrew University-Hadassah Medical School, Faculty of Medicine
Invention: Reduction of Inflammatory Disease Symptoms with Short Peptides that Inhibit Signaling through CD28

Inventor: **Uri Ben-David**
Department of Genetics
Silberman Institute of Life Sciences, Faculty of Science
Invention: PluriSIns – Pluripotent Specific Inhibitors

Inventor: **Marganit Cohen-Avrahami**
Institute of Chemistry, Faculty of Science
Invention: Transdermal Delivery Vehicles for NSAIDs: The Combination of Liquid Crystals with Cell-Penetrating Peptides

Inventor: **Noa Kaynan**
Department of Immunology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC)
Hebrew University-Hadassah Medical School, Faculty of Medicine
Invention: Generation of 'Super' Fc Antibody for Improving Medical Treatments

2012

Inventor: **Prof. Raphael (Raffi) Goren**
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: The Search for a Novel Water-Soluble Cyclopropene Derivative Antagonist (CPAS) of Ethylene Action in Agricultural Crops

Inventor: **Prof. Saul Yedgar**
Department of Biochemistry and Molecular Biology
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: A Novel Class of Multi-Functional Anti-Inflammatory Drugs (MFAIDs) for the Treatment of Inflammatory/Allergic Diseases

Inventor: **Prof. Haya Lorberboum -Galski**
Department of Biochemistry and Molecular Biology
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Cell and Organelle-Directed Protein Replacement Therapy for Mitochondrial and other Metabolic Diseases

Inventor: **Lital Magid**
Institute for Drug Research, Faculty of Medicine
Invention: Novel Cannabinoid Receptor Type 2 Selective Agonists for the Treatment of Inflammatory Conditions and Acute Central Nervous System Injury

Inventor: **Idit Sagiv-Barfi**
Alexander Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel T Cells Proliferation Inhibitors

Inventor: **Chamutal Gur, M.D.**
Ph.D. student under the supervision of Prof. Ofer Mandelboim
Lautenberg Center for General and Tumor Immunology
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Generation of Anti-NKp46 mAb for the Treatment of Type 1 Diabetes

2011

Inventor: **Prof. Haim D. Rabinowitch**
Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Genetic Innovations in Vegetable Crops: The Cornerstone of Israel's Prominence in Hi-BioTech Seed Industries

Inventor: **Prof. Dan Gazit**
Skeletal Biotech Laboratory, Faculty of Dental Medicine
Invention: Novel Technologies for Adult Stem Cell Manipulation and Applications in Tissue Engineering and Regenerative Medicine

Inventor: **Dr. Raanan Fattal**
Benin School of Computer Science and Engineering, Faculty of Science
Invention: Second-Generation Wavelet-Based Image Enhancement

Inventor: **Ms. Katy Margulis-Goshen**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Formation of Organic Nanoparticles from Microemulsions: Enhancing Water Solubility for Improved Biological Performance in Pharmaceutics, Agriculture and Cosmetics

Inventor: **Mr. Yftah Tal-Gan**
Institute of Chemistry, Faculty of Science
Invention: Development of New Peptide-Based Inhibitors of Protein Kinase B (PKB) as Potential Drugs for Cancer

Inventor: **Ms. Ada Grin**
Institute for Drug Research, Faculty of Medicine
Invention: Tissue Regeneration Membrane

2010

Inventor: **Prof. Nissim Benvenisty**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Technologies to Enable Directed Differentiation of Human Embryonic Stem Cells

Inventor: **Prof. Oded Shoseyov**
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Molecular Farming of Human Recombinant Collagen in Transgenic Tobacco Plants

Inventor: **Prof. Shmuel Peleg**
Benin School of Computer Science and Engineering, Faculty of Science
Invention: Video Synopsis: Summarizing and Indexing Surveillance Video

Inventor: **Prof. Alexander Vainstein**
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
The Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Towards Tailor-Made Crops and Compounds

Inventor: **Ms. Michal Isaacson**
Ph.D. student of Dr. Noam Shoval, Department of Geography, Faculty of Social Sciences
Invention: A Novel System for Tracking and Analyzing Human Spatial Behavior by Monitoring People's Mobility for Tourism, Town Planning and Healthcare Applications

Inventor: **Mr. Aviad Hai**
Ph.D. student of Prof. Micha Spira Department of Neurobiology Alexander Silberman Institute of Life Sciences
Faculty of Science
Invention: In-cell Recordings and Stimulation: A Fundamental Breakthrough Concept and Technology for Neuroprosthetics

Inventors: **Mr. Ezequiel Wexselblatt**
Ph.D. Supervisor: Prof. Jehoshua Katzhendler Institute for Drug Research, School of Pharmacy, Faculty of Medicine
Mr. Roee Vidavski
Ph.D. Supervisor: Prof. Gad Glaser Department of Developmental Biology and Cancer Research
Institute for Medical Research Israel-Canada (IMRIC), Faculty of Medicine
Invention: Compounds for Treating Bacterial Infections

Inventor: **Mr. Michael Grouchko**
Ph.D. student of Prof. Shlomo Magdassi Casali Institute of Applied Chemistry, Institute of Chemistry
Faculty of Science
Invention: Air Stable Copper Nanoparticles: Conductive Inks for Printed Electronics

2009

Inventor: **Prof. Abraham Hochberg**
Department of Biological Chemistry, Faculty of Science
Invention: From a Noncoding Oncofetal RNA to Cancer Therapy: Personalizing Medicine with H19

Inventor: **Prof. Shlomo Sasson**
Department of Pharmacology & Experimental Therapeutics, School of Pharmacy
Invention: Novel D-Xylose Derivatives: A New Class of Antihyperglycemic Compounds

Inventor: **Prof. Daphne Atlas**
Department of Biological Chemistry, Faculty of Science
Invention: Development of Small Molecules for the Treatment of Neurodegenerative Diseases

Inventor: **Prof. Arieh Gertler**
Institute of Biochemistry, Food Science and Nutrition,
Robert H. Smith Faculty of Agriculture, Food and Environment
Invention: Development of Leptin Antagonists and their Potential Use as Therapeutic Modalities

Inventor: **Mr. Shay Sela**
Ph.D. student of Prof. Eli Keshet, Institute for Medical Research Israel-Canada, Faculty of Medicine
Invention: The Identification of a Novel Prognostic and Diagnostic Marker of Preeclampsia

Inventor: **Mr. Dima Libster**
Ph.D. student of Prof. Nissim Garti and Prof. Gil Shoham,
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Lyotropic Hexagonal Liquid Crystals as Carriers of Therapeutic Peptides for Transdermal Administration: Solubilization and Structural Characterization

Inventor: **Mr. Shaul Lapidot**
Ph.D. student of Prof. Oded Shoseyov, Smith Institute for Plant Sciences and Genetics in Agriculture
Robert H. Smith Faculty of Agriculture, Food & Environment
Invention: Compositions Comprising Fibrous Polypeptides and Polysaccharides

Inventor: **Ms. Neta Pessah**
Ph.D. student of Prof. Meir Bialer and Prof. Boris Yagen, School of Pharmacy
Invention: □-Fluoro and □-Chloro 2,2,3,3 -Tetramethycyclopropylcarboxamide:
Two Novel Chemical Entities for the Treatment of Epilepsy and Other Disorders

2008

Inventor: **Prof. Daniel Cohn**
Casali Institute of Applied Chemistry, Institute of Chemistry, Faculty of Science
Invention: Tailor-made Biodegradable Polymers for the Prevention of Post-surgical Adhesions

Inventor: **Prof. Hermona Soreq**
Department of Biological Chemistry, Silberman Institute of Life Sciences, Faculty of Science
Invention: Engineered Human Cholinesterases and RNA-Targeted Agents to Suppress Their Functioning

Inventors: **Dr. Arie Dagan and Prof. Shimon Gatt**
Department of Biochemistry, Faculty of Medicine
Invention: Development of Novel Anti-cancer Drugs

Inventor: **Mr. Yaniv Semel**
Ph.D. student under the supervision of Prof. Dani Zamir
The Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Phenom Networks: A Web-based System for the Analysis of Quantitative Phenotypes on Both Plants and Animals for Breeding and Research

Inventor: **Mr. Nadav Kimelman-Bleich**
Ph.D. and DMD student under the supervision of Prof. Dan Gazit
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Scaffolds with Oxygen Carriers and Their Use in Tissue Engineering

Inventor: **Mr. Dima Sheyni**
Ph.D. student of Prof. Dan Gazit, Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Ultrasound-based Non-viral Gene Delivery Induces Bone Formation In Vivo

Inventor: **Mr. Matan Rapoport**
Ph.D. student under the supervision of Prof. Haya Lorberboum-Galski
Department of Cellular Biochemistry and Human Genetics, Faculty of Medicine
Invention: Enzyme Replacement Therapy for Mitochondrial Disorders: Lipoamide Dehydrogenase Deficiency as a Proof-of-principle

2007

Inventor: **Prof. Dani Zamir**
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Improving Plant Breeding Using Exotic Genetic Libraries

Inventors: **Prof. Meir Bialer and Prof. Boris Yagen**
Departments of Pharmaceutics, and Medicinal Chemistry and Natural Products
School of Pharmacy, Faculty of Medicine
Invention: Design and Development of Valnoctamide: A New Drug with Stereoselective CNS Activities

Inventor: **Prof. Leo Joskowicz**
School of Engineering and Computer Science, Faculty of Science
Invention: An Image-guided System with a Miniature Robot for Precise Positioning and Targeting in Keyhole Neurosurgery

Inventor: **Mr. Yaniv Linde**
Student of Prof. Chaim Gilon, Department of Organic Chemistry, Faculty of Science
Invention: A Novel Oral Anti-obesity Drug Candidate: Reduction of Food Consumption by Melanocortin-4 Peptide Agonist

Inventor: **Mr. Erez Podoly**
Student of Prof. Hermona Soreq, Department of Biological Chemistry, Faculty of Science
Invention: A Natural Brain Protein Protection from Alzheimer's Disease

Inventor: **Mr. Moran Farhi**
Student of Prof. Alexander Vainstein and Dr. Hagai Abeliovich
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Engineering Saccharomyces Cerevisiae for the Production of Methylbenzoate and Resistance to Benzoic Acide for Uses in the Food Industry

Inventor: **Mr. Yuval Avnir**
Student of Prof. Yechezkel Barenholz, Department of Biochemistry, Faculty of Medicine
Invention: Liposomal Glucocorticoids for Treating Inflammatory States

2006

Inventor: **Dr. Yonatan Elkind**
Smith Institute of Plant Sciences and Genetics in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Breeding of Pepper Varieties Adapted for Protected Cultivation under Mild Winter Conditions

Inventor: **Prof. Elka Touitou**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Ethosome Innovative Technology

Inventor: **Prof. Moshe Kotler**
Department of Pathology, Faculty of Medicine
Invention: A Prophylactic Vaccine Preventing a Mortal Viral Disease of Koi Fish and Carps

Inventors: **Prof. Meir Bialer and Prof. Boris Yagen**
Departments of Pharmaceutics, and Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Design and Development of a New Drug with Enantioselective CNS Activities – Propylisopropyl Acetamide (PID)

Inventor: **Ms. Elena Khazanov**
Student of Prof. Yechezkel Barenholz, Department of Biochemistry, Faculty of Medicine
Invention: Tumorosuppressive Therapy by Liposome Containing both Doxorubicin and Ceramide

Inventor: **Mr. Yehoshua Maor**
Student of Prof. Raphael Mechoulam, Department of Medicinal Chemistry and Natural Products,
School of Pharmacy, Faculty of Medicine
Invention: Novel Anti-hypertensive Agents based on Cannabis Constituent with Anti-inflammatory Properties-synergistic - Beneficial Cardiovascular Effects

Inventor: **Mr. Nir Qvit**
Student of Prof. Chaim Gilon, Department of Organic Chemistry, Faculty of Science
Invention: SIB: Small Integrated Building Blocks

Inventor: **Ms. Khuloud Takrouri**
Student of Prof. Morris Srebnik
Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Synthesis and Anti-microbial Activity of a Novel Series of Alkyldimethylamine Cyanoboranes and their Derivatives

2005

Inventors: **Prof. Shlomo Magdassi and Dr. Yelena Vinetsky**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Ceramic Ink Jets for Digital Printing on Glass

Inventor: **Dr. Zehava Uni**
Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Enhancement of Development of Oviparous Species by In Ovo Feeding – Feeding Eggs with Natural Nutrient Supplements Before They Hatch to Produce More Robust Chicks

Inventor: **Prof. Simon Benita**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Cationic Emulsions for Ophthalmic Drug Delivery

Inventor: **Prof. Uri Banin**
Department of Physical Chemistry and Center for Nanoscience and Nanotechnology, Faculty of Science
Invention: Semiconductor Nanocrystals for Optical, Electronic, Imaging and Biological Applications

Inventor: **Mr. Taleb Mokari**
Student of Prof. Uri Banin
Department of Physical Chemistry and Center for Nanoscience and Nanotechnology, Faculty of Science
Invention: Semiconductor Nanocrystals with Conductive Zone

Inventor: **Mr. Adel Jabbour**
Student of Prof. Doron Steinberg and Prof. Morris Srebnik
Department of Medicinal Chemistry and Natural Products, School of Pharmacy and Institute of Dental Sciences, Faculty of Dental Medicine
Invention: Interfering in Bacterial Cross-talk: A Novel Means to Influence Pathogenicity of Biofilms

Inventor: **Ms. Natalya Kogan**
Student of Prof. Raphael Mechoulam, Department of Medicinal Chemistry and Natural Products,
School of Pharmacy, Faculty of Medicine
Invention: Cancer Drug – Use of Quinonoid Derivatives of Cannabinoids and Such Novel Compounds in the Treatment of Malignancies

Inventor: **Mr. Rani Polak**
Student of Prof. Eran Goldin and Dr. Eitan Israeli, Faculty of Medicine
Invention: GourMed – Cooking School that Will Develop Recipes and Run a Course for People with Dietary Limitations due to Chronic Diseases

Inventors: **Staff of Prof. Micha Weiss**
Department of Computerized Information Systems, Computerized Student Course Registration Project Team
Invention: Computerized Student Course Registration Project Team“Smart Raffle”

2004

Inventor: **Prof. Amnon Shashua**
School of Engineering and Computer Science, Faculty of Science
Invention: Monocular Visual Processing for On-board Driving Assistance

Inventors: **Prof. Itamar Willner, Dr. Eugenii Katz, Dr. Fernando Patolsky and Mr. Yossi Weizmann**
Institute of Chemistry, Faculty of Science
Invention: Optoelectronic Detection of Telomerase in Cancer Cells: Development of a Screening Test for Urinary Bladder in Urine Samples

Inventors: **Prof. Michael Friedman and Prof. Amnon Hoffman**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Dr. Eran Lavy
Koret School of Veterinary Medicine, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Novel Gastro-retentive Dosage Form (GRDF) – A Means for Sustained Administration of Drugs with Narrow Absorption Window at the Upper Gastrointestinal Tract

Inventors: **Mr. Aviram Spernath and Ms. Idit Yuli-Amar**
Students of Prof. Nissim Garti, Casali Institute of Applied Chemistry, Faculty of Science
Invention: New Nanosized Vehicles for Triggering and Targeting of Phytochemicals

Inventor: **Ms. Avital Torres-Kerner**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy
Invention: New Natural Sunscreens: UVR Absorbing Compounds from Lichens and Cyanobateria

Inventor: **Dr. Hijazi Abu Ali**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: Novel Organoboronic Compounds – Synthesis and Biological Activity

Inventor: **Mr. Tareq Jubeth**
Student of Prof. Abraham Rubinstein and Prof. Yechezkel Barenholz, Departments of Pharmaceutics and Biochemistry, Faculty of Medicine
Invention: Targeting the Intestinal Mucosa by Charged Liposomes

Inventor: **Mr. Omri Ben-Zion**
Student of Prof. Amos Nussinovitch
Institute of Biochemistry, Food Science and Nutrition
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Novel Method and Apparatus for Testing the Rolling Tack of Pressure-sensitive Adhesive Methods

2003

Inventors: **Prof. Nissim Garti and Dr. Abraham Aserin**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Nano-sized Self-assembled Structured Liquids

Inventor: **Dr. Abdullah Haj-Yehia**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Design, Synthesis, and Biological Activity of Novel Hybrid Drugs

Inventor: **Dr. Jonathan Mirvis**
Melton Centre for Jewish Education, School of Education
Invention: Florence Melton Adult Mini-School: A Social Franchise Model

Inventor: **Ms. Drora Balaga**
Smith Institute of Plant Sciences and Genetics in Agriculture,
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: “TOMATO” Computerized System, Breeding Hybrid Varieties

Inventor: **Eng. Tom Koevary**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: The Centre for Process Development: A Platform for Thousands of “Inventors to Order” for Industry

Inventor: **Prof. Zichria Zakay-Rones**
Institute of Microbiology, Faculty of Medicine
Invention: Anti-cancer Therapy by Newcastle Disease Virus (NDV)

Inventor: **Mr. Arie Gruzman**
Student of Prof. Shlomo Sasson, Department of Pharmacology and Experimental Therapeutics, School of Pharmacy, Faculty of Medicine
Invention: Novel Anti-hyperglycemic Drugs

Inventor: **Ms. Aviva Joseph**
Student of Prof. Eli Kedar and Prof. Yechezkel Barenholz, The Lautenberg Center for Immunology and Department of Biochemistry, Faculty of Medicine
Invention: INFLUSOME-VAC, Three Novel, Highly Efficient Influenza Vaccines

Inventor: **Mr. Hadi Aslan**
Student of Prof. Dan Gazit, Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Novel Methods for Stem Cells Based Therapy

Inventor: **Mr. Shai Shalev-Shwartz**
Student of Prof. Yoram Singer, School of Engineering and Computer Science, Faculty of Science
Invention: A Query Melody System

Inventor: **Mr. Mickey Kosloff**
Student of Prof. Zvi Selinger, Silberman Institute of Life Sciences, Faculty of Science
Invention: Drug-assisted Catalysis, Novel Cancer Therapeutics

Inventor: **Mr. Abed Al-Aziz Quntar**
Student of Prof. Morris Srebnik, Department of Medicinal Chemistry and Natural Products, School of Pharmacy, Faculty of Medicine
Invention: The Synthesis of Novel Di-and Tri-Vinylphosphonates

2002

Inventor: **Prof. Shmuel Ben-Sasson**
Department of Experimental Medicine and Cancer Research, Faculty of Medicine
Invention: Kin-Ace Technology – A Broad Platform Technology for Disease Control via the Interception of Intracellular Signaling

Inventors: **Prof. Michael Sela and Dr. Doron Steinberg**
Department of Oral Biology, Faculty of Dental Medicine
Prof. Michael Friedman
School of Pharmacy, Faculty of Medicine
Prof. W. Aubrey Soskolne
Department of Periodontics, Faculty of Dental Medicine
Invention: Periochip-sustained Release Treatment for Periodontal Diseases

Inventor: **Prof. Gershon Golomb**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Nanoparticulate Drug Delivery Systems for Restenosis Therapy

Inventor: **Prof. Shmuel Peleg**
School of Engineering and Computer Science, Faculty of Science
Invention: OMNISTEREO: Capturing and Viewing 3D Stereoscopic Panoramic Images

Inventor: **Dr. Shlomo Yitzchaik**
Department of Inorganic and Analytical Chemistry, Faculty of Science
Invention: Molecular Layer Epitaxy (MLE)

Inventor: **Dr. William (Bill) Breuer**
Department of Biological Chemistry, Faculty of Science
Invention: A Test for the Detection of Toxic Forms of Iron in Human Plasma

Inventor: **Dr. Itshak Golan**
The Lautenberg Center for Immunology, Faculty of Medicine
Invention: Novel CD44 Variant: Potential Target in the Therapy of Rheumatoid Arthritis

Inventor: **Mr. Eytan Klausner**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Novel Gastroretentive Dosage Forms

Inventor: **Ms. Nina Isoherraren**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: New Anti-epileptic Drug

Inventor: **Mr. Alexei Shir**
Department of Biological Chemistry, Faculty of Science
Invention: Targeted dsRNA Brain Cancer Therapy

Inventor: **Mr. Fernando Patolsky**
Institute of Chemistry, Faculty of Science
Invention: Creating Multi-stress Resistance in Arabidopsis

Inventor: **Mr. Alexander Mazel**
Department of Plant Sciences, Faculty of Science
Invention: Creating Multi-stress Resistance in Arabidopsis Plants

Inventor: **Ms. Lital Alfonta**
Institute of Chemistry, Faculty of Science
Invention: An Electronic Sensor to Identify Drug Resistance in HIV Patients

Inventor: **Mr. Yossi Gafni**
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Vascular Tissue Engineering

Inventor: **Dr. Gadi Pelled**
Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Engineering of Complex Hybrid Tissues

2001

Inventor: **Prof. Eduardo Mitrani**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Micro-organ Technology for Genetically Engineered Bio-pumps

Inventor: **Prof. Simon Benita**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Drug Delivery through Positively Charged Submicron Emulsions

Inventors: **Mr. Danny Vinitsky and Mr. Eitan Raz**
Department of Computerized Information Systems
Mr. Yehavi Bourvine
Computation Center
Invention: Short Message Service (SMS) Supplied by All Cellphone Operators Sending Short Text Messages to Students' Phones

Inventor: **Dr. Andrew Shipway**
Institute of Chemistry, Faculty of Science
Invention: Novel Technology for the Generation of Electronic Circuits Using a Novel Computer-assisted Printing Method

Inventors: **Prof. Yona Chen, Prof. Yitzhak Hadar and Mr. Amir Toar**
Department of Soil and Water Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: "RollCom" – A Novel, Simple, and Easy to Operate Composting Apparatus

Inventor: **Prof. Itamar Gati**
Department of Psychology, Faculty of Social Sciences, and School of Education
Invention: "Future Directions" Internet Site to Facilitate Career Decision Making

Inventor: **Ms. Miriam V. Kott-Gutkowski**
Silberman Institute of Life Sciences, Faculty of Science
Invention: MDRTL Ex-Vivo Kit Measure and Select Effective Multi-drug Resistance Blocker

Inventor: **Ms. Susanna Tchilibon**
School of Pharmacy, Faculty of Medicine
Invention: HU-320 Anti-inflammatory Drug

Inventor: **Mr. Yehuda Gil**
The Center for Multimedia-Assisted Instruction
Invention: The Mobile Smart Table-MST Combining Various Multimedia Accessories

2000

Inventor: **Prof. Marta Weinstock-Rosin**
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Development of Exelon: A Drug for the Treatment of Alzheimer's Disease (AD)

Inventor: **Prof. Meir Bialer**
Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine
Invention: Valproyl Glycinamide (TV 1901): A New Anti-epileptic (AED) and CNS Drug for the Treatment of Migrane, Neuropathic Pain, and Mania

Inventors: **Prof. Avner Adin and Dr. Nicolai Vescan**
Assistants: **Ms. Rivka Kalbo and Ms. Luba Rubinstein**
Division of Environmental Sciences, School of Applied Science, Faculty of Science
Invention: "Electro-Flocculation" for Water Treatment and Reuse

Inventor: **Dr. Baruch Schwarz**
School of Education
Invention: The "Kishurim Project"

Inventor: **Mr. Itai Peles**
Computer Authority, Ein Kerem
Invention: IBTS-Internet Based Testing System to Replace Traditional Questionnaires and Written Tests

Inventor: **Mr. Reuvan Amar**
Computer Authority, Mount Scopus
Invention: HUDAP-Hebrew University Data Analysis Package

Inventor: **Mr. Meir Glick**
Department of Medicinal Chemistry, School of Pharmacy, Faculty of Medicine
Invention: Novel Stochastic Algorithm for Use in Life Sciences, Physics, Telecommunications and Economics

Inventor: **Mr. Gil Ronen**
Department of Genetics, Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel Plant Gene "B" and Methods to Genetically Manipulate Color Formulation in Plants

Inventor: **Mr. Nir Sitvani**
Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Antelope-like Stimulating Device to Reduce Stress of Wild Animals in Captivity

1999

Inventor: **Dr. Oded Shoseyov**
Department of Plant Pathology and Microbiology, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: CBD Technology – Using the CBD Protein to Bind Various Molecules to Cellulose

Inventor: **Prof. Elisha Tel-Or**
Department of Agricultural Botany and Otto Warburg Center for Biotechnology in Agriculture
Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Azolla Biofilter for Waste Treatment

Inventor: **Prof. Hermona Soreq**
Department of Biological Chemistry, Faculty of Science
Invention: Antisense Technology – To Treat Various Neurodegenerative Syndromes

Inventors: **Mr. Yaron Ben-Etzion**
Head of Manpower and Payroll
Ms. Chava Spruch
Head of Payroll System, Department for Computerized Information Systems
Invention: A Solution for BUG 2000

Inventor: **Mr. Leon Margolin**
Department of Anatomy and Cell Biology, Faculty of Medicine
Invention: A Mask for the Treatment of Headaches

Inventor: **Mr. Gadi Turgeman**
Bone Gene Therapy and Molecular Pathology Laboratory, Faculty of Dental Medicine
Invention: The Reciprocal Differentiation System, Controlling the Level of BMP2 Expression

1998

Inventor: **Prof. Itamar Willner**
Institute of Chemistry, Faculty of Science
Invention: Layered Electrically-Contacted Enzyme-Electrodes and Antigen/Antibody Assembles for Electrochemical and Piezoelectrical Biosensors and Immunosensor Devices

Inventors: **Prof. Nissim Garti**
Casali Institute of Applied Chemistry, Faculty of Science
Dr. Yuri Feldman
Department of Applied Physics, Faculty of Science
Invention: Time Domain Dielectric Spectrometer (TDDS) for Investigation of Advanced Materials and Medical Systems

Inventors: **Prof. Michael Schieber, Dr. Jacob Nissenbaum, Dr. Leonid Melkhov and Ms. Asaf Zuck**
School of Applied Science, Faculty of Science
Invention: Polycrystalline Hg 12 X-Ray Detector Plates for Digital Radiology

Inventors: **Prof. David Avnir**
Institute of Chemistry, Faculty of Science
Prof. Sergei Braun
Silberman Institute of Life Sciences, Faculty of Science
Prof. Ovadia Lev
Division of Environmental Sciences, Faculty of Science
Prof. Michael Ottolenghi
Institute of Chemistry, Faculty of Science
Invention: Reactive Organic Sol-gel Ceramic Materials

Inventor: **Prof. Joseph Hirschberg**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Genetic Engineering of Astaxanthin Production in Transgenic Plants

Inventor: **Mr. Amir Zuker**
Kennedy-Leigh Centre for Horticultural Research, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Transgenic Carnation Plants with Novel Characteristics

Inventor: **Mr. Galen Marquis**
Institute of Jewish Studies, Faculty of Humanities
Invention: Production of The Hebrew University of Jerusalem Bible Project

Inventor: **Mr. Jehuda Basnizki**
Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel Seed-planted Hybrid Varieties of the Globe Artichoke

Inventor: **Mr. Alexey Kamyshny**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Form III Aspartame

1997

Inventors: **Prof. Yechezkel Barenholz and Dr. Rivka Cohen**
Department of Biochemistry, Faculty of Medicine
Prof. Alberto Gabizon and Dr. Dorit Goren
Hadassah University Hospital
Invention: DOXIL – Liposomal Doxorubicin for Cancer Treatment

Inventor: **Prof. Daphne At las**
Department of Biological Chemistry, Faculty of Science
Invention: A New Anti-Parkinson's Drug

Inventors: **Prof. Nava Ben-Zvi**
Center for Multimedia Assisted Instruction
Mr. David Rashty
Computation Center
Mr. Eli Kanai
Snunit Educational Information System, Faculty of Science
Invention: Snunit Educational Information System

Inventor: **Mr. Yoav Smith**
Faculty of Medicine
Invention: The Dermal Imaging System

Inventor: **Ms. Varda Hershko**
Institute of Biochemistry, Food Science and Nutrition, Faculty of Agriculture
Invention: Hydrocolloid Coatings for Food and Agricultural Products

Inventor: **Mr. Shmaryahu Ezrahi**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: Fire-resistant Hydraulic Fluids

1996

Inventor: **Prof. Shabtay Dikstein**
School of Pharmacy, Faculty of Medicine
Invention: Development of Topically-applied Drugs for the International Market

Inventor: **Prof. Abraham Sztejnberg**
Department of Plant Pathology and Microbiology, Faculty of Agriculture
Invention: AQ10: A Novel Biofungicide for the Control of Plant Diseases

Inventor: **Prof. Dan Davidov and Dr. Michael Golosovsky**
Racah Institute of Physics, Faculty of Science
Invention: High-resolution Millimeter-wave Scanning Microscope

Inventor: **Prof. Chaim Gilon**
Institute of Chemistry, Faculty of Science
Invention: Backbone Cyclization and Cycloscan TM: Novel Technologies for the Fast Discovery of New Peptide Based Drugs

Inventor: **Mr. Michael Hoichman**
Computer Programmer, Faculty of Medicine
Invention: The "Maestro" Program for Controlling Auditory Experiments

Inventor: **Mr. Barak Hershkovitz**
Faculty of Medicine
Invention: "Biochem Thinker": A New Computer Program to be used by Biochemistry Students as a Tutorial Tool

1995

Inventor: **Prof. Itai Bab**
Bone Laboratory, Faculty of Dental Medicine
Invention: Osteogenic Growth Peptide (OGP)

Inventor: **Prof. Nissim Garti**
Casali Institute of Applied Chemistry, Faculty of Science
Invention: New Emulsifiers

Inventor: **Prof. Yechezkel Barenholz**
Department of Biochemistry, Faculty of Medicine
Invention: A Novel Approach to Obtain Efficient and Stable Remote Drug Loading of Liposomes for Clinical Use

Inventors: **Dr. Eugenii Katz, Ms. Azalia Riklin and Ms. Ron Blonder**
Institute of Chemistry, Faculty of Science
Invention: Development of Biosensor and Immunosensor Devices

1994

Inventors: **Dr. B. Schwarzburd and Dr. Marcello Chaffer**
Department of Animal Sciences, Faculty of Agriculture
Invention: Membrane Vesicles of E. coli as a Potent Non-toxic Vaccine Against Colibacillosis in Poultry

Inventor: **Mr. Dudu Rashty**
Computation Center, Faculty of Science
Invention: The Hebrew University Information Retrieval System

Inventors: **Prof. Haim Rabinowitch and Prof. Nachum Kedar**
Department of Field and Vegetable Crops, Faculty of Agriculture
Invention: Development of Long Shelf-life Tomatoes

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