THE KAYE INNOVATION AWARDS
AT THE HEBREW UNIVERSITY OF JERUSALEM
For the past 22 years, Yissum has been taking part in the selection process of Hebrew University faculty and students for the prestigious Kaye Award. These annual awards are given to those inventors whose work exemplifies best the synergy of scientific excellence and commercial potential.

Yissum enjoys a prominent place among the world’s leading technology transfer companies, with over two billion dollars in annual sales of products originating at the Hebrew University and licensed by Yissum sold worldwide. Since its inception in 1964, Yissum has registered over 9,100 patents, covering more than 2600 inventions, 850 of which have been licensed and 110 of these formed the basis for the establishment of start-up companies, 14 of which were formed in 2015. Many of the researchers behind these products and technologies have been recognized by receiving the Kaye Award.

This year’s first prize is awarded to Prof. Yoel Sasson of the Faculty of Science, for his invention: “Novel reagent for purification of oil-contaminated soil.” This environmental-friendly technology is an excellent example of the Hebrew University’s ability to take scientific leadership where there is a real market need. In 2013, Yissum licensed the technology to a Swiss-based company which commercialized the technology under the brand name “NH4Plus.” The company conducted successful pilot scale tests in oil-contaminated sites in Russia, Switzerland, The Netherlands, and in the Israeli Arava.

The second prize this year is awarded to Dr. Metal Riches of the Faculty of Science for her research: “Biocompatible and environmentally friendly anti-fouling materials.”

In April 2015, Yissum formed a new startup company, Nano4L, to develop and commercialize various applications for this technology, such as: food packaging, medical implants, water purification, and marine biofouling. Today, Nano4L is in the process of establishing strong collaborations with the world’s leading chemical companies and leading electronic device manufacturers.

Yissum is proud to be actively involved in the successful commercialization of these and many other technologies. Our dedicated team is committed to bridging the ever-existing gap between academia and industry in order to bring the fruits of first-class academic research to society at large, and thus provide much-needed funding to support scientific research at the Hebrew University.

We are, as always, indebted to Mr. Kaye for his generosity and personal commitment to support Hebrew University’s researchers in their constant quest for innovation, and extend our sincere congratulations to this year’s eminent prize-winners.

Yaacov Michlin
President & CEO

YISSUM Technology Transfer Company of the Hebrew University
First Prize

Prof. Yoel Sasson
Casali Institute of Applied Chemistry
Institute of Chemistry
Faculty of Science
Novel Reagent for Purification of Oil-Contaminated Soil

Second Prize

Dr. Meital Reches
Institute of Chemistry
Faculty of Science
Biocompatible and Environmentally-Friendly Antifouling Materials

Third Prize

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

KAYE WINNERS 2016

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

Mr. Oren Ben Dor
Department of Applied Physics
The Rachel and Selim Benin School of Computer Science and Engineering
Faculty of Science
Chiral Molecular-Based Spin Devices
Oil is the most valuable world resource. Oil production now exceeds 90 million barrels a day. However, the storage, processing, and transportation of this extremely important product to the world economy carries certain risks. Spills and leaks are common and occur every day around the world and sometimes result in ecological disasters. When crude oil or petroleum products spill, they can penetrate deep enough into the soil to destroy microflora and severely impact the stratum on a molecular level, leading to long-term changes to the environment.

We have discovered a novel method for the in-situ generation of a remarkably stable superoxide anion radical under ambient conditions based on a mixture of hydrogen peroxide and sodium hydroxide. The superoxide radical anion $\text{O}_2^-$ is a highly reactive oxygen species that possesses both anionic (nucleophilic) and free radical properties. This unique reagent exhibits properties of a super oxidizing agent and thus can be applied as a new AOP (Advanced Oxidation Protocol).

This reagent was effectively utilized for the destruction of bulk of hydrocarbons, carbon tetrachloride, and other polyhalogen compounds. Moreover, this reagent was found as a very effective CO$_2$ absorber, more effective than standard methods for CO$_2$ abatement. Recently, we discovered that the superoxide reagent can also be applied as an effectual reagent in soil and water remediation processes. Besides the advanced oxidizing capacity of the material, our reagent is an extremely potent nucleophile and it swiftly reacts (within minutes to hours) at ambient conditions with PCHs, PAHs, PCBs compounds and petroleum products. Thus, pollutants such as the industrial solvents, petroleum products, crude oil, diesel and BTX (all typical ground and groundwater pollutants) are rapidly oxidized and totally mineralized.

These findings were described in a series of patents and scientific publications. This novel technology for remediation of oil-contaminated soils was recently licensed by Yissum to a Swiss company called Man Oil Group AG (MOG) which commercialized our technology under the brand name "NHSPlus.” MOG has run pilot scale tests in oil-contaminated sites in Russia, Switzerland, The Netherlands, Nigeria, and Israel with great success. First royalties were already paid by MOG to Yissum this year.
Antifouling Materials
Biocompatible and Environmentally-Friendly

Biofouling is a process in which organisms and their by-products encrust a surface. The process initiates with the non-specific adsorption of proteins to the surface, and continues with the attachment of the organisms to the proteins on a substrate. When the organism is pathogenic bacteria, its attachment to the surface may progress to the formation of a well-organized bacterial network called biofilm. The biofilm protects the bacteria against antibiotics and other antimicrobial agents. The biofilm is composed of extracellular polymeric substances (EPS) which prevent the attachment of bacteria, fungi, and yeasts to surfaces. Based on this technology, she co-founded the company NanoAF.

Metal Reches has been a faculty member of the Institute of Chemistry at The Hebrew University of Jerusalem since 2010. She received her Ph.D. (with distinction) in 2007 from the Department of Molecular Microbiology and Biotechnology at Tel Aviv University in 2003. Dr. Reches was an EMBO and a HIFS postdoctoral research fellow at the Chemistry Department of Harvard University. Her research focuses on understanding the interface between proteins and inorganic materials. One of the outcomes of this research is an antifouling coating, which prevents the attachment of organisms such as bacteria, fungi, and yeast to surfaces. Based on this technology, she co-founded the company NanoAF.

The present invention is a short peptide (only three amino acids) that can spontaneously form coating or capsules that prevent biofouling. The advantages of using peptides for this purpose lie in their biocompatibility, chemical diversity, and ease for large-scale synthesis. The tripeptide comprises three elements that enable i) its self-assembly into a film, ii) its adsorption onto any substrate, and iii) its antifouling activity. The coating is spontaneously formed on any surface (oxides, metals and polymers). In addition, it prevents the first step of antifouling, which involves the adsorption of bioorganic molecules to the substrate. The coating significantly reduces the attachment of various organisms to surfaces, including pathogenic bacteria, yeasts and fungi.

This invention describes novel carbamoyl-phosphate-based compounds for the treatment and prevention of metastatic diseases. These compounds have shown to be effective in preclinical studies also against the "triple negative" breast cancer that is currently resistant to all available therapies. These compounds are indicated for oral administration and exhibit long biologic half-life that is most desired for preventative treatment even in the case of relatively poor patient compliance. Unlike current treatments that are based on toxic chemotherapy, these innovative compounds are not cytotoxic at all. In fact, their advantage is that they do not penetrate into cells and their site of action is in the extracellular compartment. Thus, the newly invented molecules tackle the tumor-immediate microenvironment and are a promising approach to an unmet need to treat metastatic disease.

Recent evidence indicates that the microenvironment provides essential cues to the maintenance of cancer stem cells. Cancer initiating cells and in promoting the seeding of cancer cells at metastatic sites. Numerous molecules are induced or upregulated in the tumor microenvironment which are otherwise characterized by a restricted expression pattern in normal differentiated tissues. Thus, the dynamic and reciprocal interactions between tumor cells and cells of the tumor microenvironment orchestrate events critical to tumor evolution toward metastasis, and many cellular and molecular elements of the microenvironment are emerging as attractive targets for therapeutic strategies. This invention provides a non-toxic multi-targeted approach, in which main tumor metastasis-supporting enzymes would be simultaneously inhibited in the tumor microenvironment (TME) to prevent the proliferation and dissemination of tumor metastases. The enzymes that are mainly considered in this connection are matrix metalloproteinases (MMPs), carbonic anhydrases (CAs) and autotaxin (ATX), all present in the extracellular compartment in vicinity of the tumor cells.

The three enzyme families (ATX, CA IX and XI and MMP 2) have significant differences in their substrates and their products, but share structural similarities in that they all have zinc ions at their catalytic sites and furthermore, they function in the extracellular medium. In light of this, our invented CPOs, which exhibit a triple inhibiting effect on these enzymes, display anti-cancer and anti-metastatic activities.

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receptors on NK cells, including receptors that bind receptors that recognize various ligands, including receptors. There are several activating NK cell delivered by inhibitory and activating NK cell activity is controlled by a balance of signals with antigen presenting cells (APCs), and by transfer response, e.g., by vaccination with cancer cells fused generate, induce or augment an anti-tumor immune system that perform surveillance and transformed and cancer cells. The key cells of the immune system has evolved to detect and eliminate tumor cells are natural killer cells (NK) and tumor cells.

In his first year at Hebrew University, he was awarded the Rector’s Award for excellent students. He has already published five papers and was awarded the Benter Award and the IMRIC award for excellence in cancer research.

New Immunotherapy Against Cancer

The immune system has evolved to detect and eliminate pathogens that may harm the host organism. Moreover, it serves as a watchdog against transformed and cancer cells. The key cells of the immune system that perform surveillance and elimination of tumor cells are natural killer cells (NK cells), cytotoxic T cells (CTL), macrophages, neutrophils and dendritic cells.

A major goal of cancer immunotherapy is to generate, induce or augment an anti-tumor immune response, e.g., by vaccination with cancer cells fused with antigen presenting cells (APCs), and by transfer or specific activation of anti-tumor T and NK cells. NK cell activity is controlled by a balance of signals delivered by inhibitory and activating NK cell receptors. There are several activating NK cell receptors that recognize various ligands, including tumor specific ligands. There are various inhibitory receptors on NK cells, including receptors that bind MHCII. NK cells also express additional inhibitory receptors that do not recognize MHC class I, such as CS1/GAME, CD160 and TIGIT (T-cell Immunoglobulin and ITIM Domain).

In humans, TIGIT is expressed on all NK cells, as well as on other immune cells, such as T reg, CD8+ T cells and tumor infiltrating lymphocytes. It recognizes a very well defined ligand, poliovirus receptor (PVR, CD155). This interaction results in inhibition of both NK cells and CD8+ T cells.

We have developed novel products that can boost immune activity. Our products are blocking monoclonal antibodies (mAbs) that target and block the inhibitory receptor (anti-TIGIT) and its ligand (anti-PVR). Each of these mAbs is able to induce potent immune responses. Additionally, these mAbs can act synergistically with existing immunotherapies, such as anti-CTLA4, anti-PD1 and anti-CTLA4. We thus have high hopes for utilizing these novel anti-tumor mAbs to better treat cancer in the future.

Chiral Molecular-Based Spin Devices

The memory technologies available today offer a variety of methods, all have advantages but invariably suffer from various drawbacks. A high priority in today’s information and communication technology is the further miniaturization and decreasing of power consumption. Different approaches are being pursued towards more efficient and further down-scalable techniques, one such approach is the field of spintronics (SPIN Transport electronics).

In contrast to conventional electronic devices, where the election charge is used for logical operation, data transmission and storage, in Spintronics, the spin – the inner angular momentum of the electron – enables greater freedom. Given that efficient ‘spin filters’ and ‘spin detectors’ are available, switching currents might be considerably reduced. Recent spin selective transmission approaches utilize chiral and/or helical molecules. Various types of molecules having chiral or helical structural characteristics function as spin selective filtering elements. Such chiral or helical molecules operate even at room temperature (as well as at increased temperatures) to filter transmission of electrons along the molecule in accordance with direction of internal magnetic moment (spin) of the electrons. The present invention provides a novel electronic device configuration utilizing a spin selective filter, e.g., in the form of chiral or helical molecules, for generating local magnetization in a spin-accumulating layer structure. Furthermore, the electronic device of the invention eliminates the need for a static magnet, which is generally required in magnetic memory units and/or other magnetic based electronic devices. The omission of a permanent magnet, which is generally used for readout of local magnetization/magnetic direction, enables the device of the present invention to be configured in nonmagnetic dimensions. Additionally, manufacturing costs may be reduced as the need for complex multilayer structure that maintains a permanent magnetic field is omitted.

We aim to overcome all known disadvantages while improving current technological advantages. By creating a universal silicon-based memory on chip we believe that a non-volatile, high-speed, high density and low power memory device is feasible.
Previous Winners
Kaye Innovation Awards
at The Hebrew University of Jerusalem

Kaye Winners 2015

**Inventor:** Prof. URI BANN
**Institute:** 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 MANDELBOM
**Institute:** Department of Immunology and Cancer Research
**Invention:** 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. EZRI PILEG
**Institute:** Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture
**Invention:** 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
**Institute:** Department of Immunology and Cancer Research
**Invention:** 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 HANNIN
**Institute:** Department of Biological Chemistry, Silberman Institute of Life Sciences, Faculty of Science
**Invention:** Down Regulating miRNA-152 for the Treatment of Lipid Related Disorders

**Roi Asor**
Institute of Chemistry, Ph.D. Candidate
Faculty of Science

**Reut Avinun**
Psychology, Ph.D. Candidate
Faculty of Social Sciences

**Rebecca Biton**
Institute of Archaeology, Ph.D. Candidate
Faculty of Humanities

**Daphna Gross-Manos**
Paul Baerwald School of Social Work and Social Welfare, Ph.D. Candidate

**Alisa Komsky-Elbaz**
Department of Animal Sciences, Ph.D. Candidate
Robert H. Smith Faculty of Agriculture, Food and Environment
Kaye Winners 2009

Inventor: Prof. ABRAHAM HOCHEMBERG
Invention: Technologies to Enable Directed Differentiation of Human Embryonic Stem Cells

Inventor: Prof. ODID SHOSEYOE
Invention: Molecular Farming of Human Recombinant Collagens in Transgenic Tobacco Plants

Inventor: Prof. SHMUEL FELGIS
Invention: Novel D-Xylose Derivatives: A New Class of Antihyperglycemic Compounds

Inventor: Prof. DAPHNE ATLAS
Invention: Development of Small Molecules for the Treatment of Neurodegenerative Diseases

Inventor: Mr. SHAY SELA
Invention: The Identification of a Novel Prognostic and Diagnostic Marker of Preeclampsia

Inventor: Mr. SHAUL LAPIDO
Invention: Air Stable Copper Nanoparticles: Conductive Inks for Printed Electronics

Kaye Winners 2010

Inventor: Prof. NISSIM BENVENISTY
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Invention: The Identification of a Novel Prognostic and Diagnostic Marker of Preeclampsia

Inventor: Mr. SHAUL LAPIDO
Invention: Air Stable Copper Nanoparticles: Conductive Inks for Printed Electronics
Inventors: Prof. DANIEL COHN
Invention: Scaffolds with Oxygen Carriers and their Use in Tissue Engineering

Inventors: Prof. HERMIONA SOLOD
Invention: Engineering Saccharomyces cerevisiae for the production of methylbenzoate and resistance to benzoic acid.

Inventors: Dr. ANDERSON and Prof. SHINNAN GAIT
Invention: Development of novel anti-cancer drugs

Inventors: Prof. MEIR DRAZLER and Prof. BORIS YAGEN

Inventors: Dr. YONATAN ROVIT
Invention: Enzyme replacement therapy for mitochondrial disorders: lipoamide dehydrogenase deficiency.

Inventors: Prof. DANI ZAMIR
Invention: SIB: Small integrated building blocks

Inventors: Prof. HERMONA SOREN
Invention: Breeding of pepper varieties adapted for protected cultivation under mild winter conditions.

Inventors: Prof. MEIR DRAZLER and Prof. DAN GAZIT
Invention: Artificial brain protein protection from Alzheimer’s disease.

Inventors: Prof. ELKA TOUROU
Invention: Tailor-made biodegradable polymers for the prevention of post-surgical adhesions.

Inventors: Dr. YONATAN ROVIT
Invention: Liposomal glucocorticoids for treating inflammatory states.

Inventors: Prof. MEIR DRAZLER and Prof. BORIS YAGEN
Invention: Novel anti-hypertensive agents based on cannabis constituent with anti-inflammatory properties-synergistic beneficial cardiovascular effects.

Inventors: Prof. YEHOSHUA MAID
Invention: A prophylactic vaccine preventing a mortal viral disease of koi fish and carps.

Inventors: Prof. MEIR DRAZLER and Prof. BORIS YAGEN
Invention: A novel anti-hypertensive agent based on cannabis constituent with anti-inflammatory properties-synergistic beneficial cardiovascular effects.

Inventors: Prof. ELKA TOUROU
Invention: A natural brain protein protection from Alzheimer’s disease.

Inventors: Prof. ELKA TOUROU
Invention: A new drug with enantioselective CNS activities – propylisopropyl acetamide (PID).

Inventors: Prof. ELKA TOUROU
Invention: Tumorosuppressive therapy by liposome containing both doxorubicin and ceramide.

Inventors: Prof. HERMONA SOREN
Invention: Breeding of pepper varieties adapted for protected cultivation under mild winter conditions.

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Inventors: Prof. HERMONA SOREN
Invention: Breeding of pepper varieties adapted for protected cultivation under mild winter conditions.
Kaye Winners 2004

Inventor: Prof. AMNON SHASHUA
Invention: School of Engineering and Computer Science, Faculty of Science
Invention: Molecular Visual Processing for On-board Parking Assistance

Inventor: Prof. IVAN C. WELKNER, Dr. BUGNIA KATZ, Dr. FERNANDO BUSLAVIC and Mr. YOSSI WEIZMANN
Invention: Institute of Chemistry, Faculty of Science
Invention: Optical-electronic Detection of Telomerase in Cancer Cells: Development of a Screening Test for Urinary Bladder Precancerous Samples

Inventors: Prof. MICHAEL FREEDMAN and Prof. AMNON HOFFMAN
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Novel Cancer-Resistant Drug Formulations

Inventor: Dr. ERAN LAVY
Invention: Koret School of Veterinary Medicine, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Novel Virus-Resistant Drug Formulations

Inventor: Mr. AHMAD SABRA
Invention: Students of Prof. Ahmed Sabra, Faculty of Applied Chemistry, Faculty of Science
Invention: New Natural Sunscreens: UVR Absorbing Compounds from Lichens and Cyanobacteria

Inventor: Dr. HUWAL ABDUL
Invention: Students of Prof. Ahmad Sabra, Faculty of Applied Chemistry, Faculty of Science
Invention: Novel Organometallic Compounds – Synthesis and Biological Activity

Inventor: Mr. TAREQ SABRA
Invention: Students of Prof. Ahmad Sabra, Faculty of Applied Chemistry, Faculty of Science
Invention: New Drug-Resistant Drug Formulations

Inventor: Ms. NADIA KOBAN
Invention: Student of Prof. Raphael Rubinstein, Department of Medical Chemistry and Natural Products, School of Pharmacy
Invention: Interfering in Bacterial Cross-Talk: A Novel Means to Influence Pathogenicity of Biofilms

Inventor: Ms. NATAL YAKOV
Invention: Student of Prof. Nissim Garti, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: New Nanoparticles for Targeting and Determining of Phytochemicals

Inventor: Mr. AHAMID YOOB
Invention: Students of Prof. Nissim Garti, Faculty of Agricultural, Food and Environmental Quality Sciences
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Inventor: Ms. OMAR BEN-ZION
Invention: Student of Prof. Ajem Asscher, Institute of Biochemistry, Food Science and Nutrition
Invention: Novel Device and Apparatus for Testing the Sticking Strength of Pressure-sensitive Adhesive Materials

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Kaye Winners 2005

Inventor: Prof. SHLOMO MAGDASSI and Dr. YEHUDA VINETSKY
Invention: School of Applied Chemistry, Faculty of Science
Invention: Ceramic Ink Jets for Digital Printing on Glass

Inventor: Dr. ZHANG LIN
Invention: Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: Enhancement of Development of Oviparous Species by In Vivo Feeding: Feeding Eggs with Nutrient Supplements before They Hatch to Produce More Robust Chicks

Inventor: Prof. SIMON BERNSTEIN
Invention: Department of Physical Chemistry and Center for Nanoscience and Nanotechnology, Faculty of Science
Invention: Novel Nanoparticles for Optical, Electronic, Imaging and Biological Applications

Inventor: Mr. TAREQ MOHAMMED
Invention: Student of Prof. Uri Banin
Invention: Novel Nanoparticles with Conductive Core

Inventor: Mr. ABDEL WAHAB
Invention: Student of Prof. Doron Steinberg and Prof. Morris Srebnik
Invention: New Organic Antioxidants – Synthesis and Biological Activity

Inventor: Ms. NASIM BAGHAI
Invention: Student of Prof. Raphael Rubinstein, Department of Medical Chemistry and Natural Products
Invention: New Natural Sunscreens: UVR Absorbing Compounds from Lichens and Cyanobacteria

Inventor: Mr. RABI YUSUF
Invention: Student of Prof. Eran Goldin and Dr. Eitan Israeli
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Kaye Winners 2003

Inventors: Prof. MARK AND Dr. ABRAHAM ISRAEL
Invention: Controlled Self-assembled Structured Lipids

Inventor: Dr. ABDULLAH FAHD-YUNIS
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Design, Synthesis and Biological Activity of Novel Hybrid Drugs

Inventor: Dr. JONATHAN ARBUS
Melton Center for Neuro-Education, School of Education
Invention: Fluorescent Melton Adult Mini-School: A Social Franchise Model

Inventor: Ms. DORSA BALAGA
Smith Institute of Plant Sciences and Genetics in Agriculture, Faculty of Agricultural, Food and Environmental Quality Sciences
Invention: "TOMATO" Composted System, Breeding Hybrid Varieties

Inventor: ENG. TOM KOWARY
Coral 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. ZOBIAH ZARIFISON
Institute of Microbiology, Faculty of Medicine
Invention: Anti-cancer Therapy by Newcastle Disease Virus (NDV)

Inventor: Mr. ARIE GURZAN
Student of Prof. Uriano Sasso, Department of Pharmacology and Experimental Therapeutics, School of Pharmacy, Faculty of Medicine
Invention: Novel Anti-hyperglycemic Drugs

Inventor: Ms. JUHA JOSEPH
Student of Prof. Elad Kedar and Prof. Yechiel Barenholz, The Lautenberg Center for Immunology and Department of Biochemistry, Faculty of Medicine
Invention: INFLUGENOM-VAC 3 Novel, Highly Efficient Influenza Vaccines

Inventor: Mr. HADI ASLAN
Student of Prof. Dan Guast, Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Novel Methods for Stem Cells Based Therapy

Inventor: Mr. SHAI SHALIV-SHABATZ
Student of Prof. Yosef Singer, Institute of Chemistry, Faculty of Science
Invention: A Query Melody System

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

Inventor: Mr. ABEED AL-ALI ZOUAIR
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-Naphtholphosphates

Kaye Winners 2002

Inventor: Prof. SHMUEL BEN-SAISON
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. BORISS STEINBERG
Department of Oral Biology, Faculty of Dental Medicine
Prof. MICHAEL FRIEDMAN
School of Pharmacy, Faculty of Medicine
Prof. W. AUBREY SOSKOLNE
Department of Preventive Dentistry, Faculty of Dental Medicine
Invention: Penicillin Sustained Release Treatment for Periodontal Diseases

Inventor: Prof. GERSHON GOLDIN
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Nanoparticles Drug Delivery Systems for Restenosis Therapy

Inventor: Prof. SHMUEL PEGIS
School of Engineering and Computer Science, Faculty of Science
Invention: SORINSTEREO: Capturing and Viewing 3D Stereoscopic Panoramic Images

Inventor: Dr. SHLOMO FITZHIK
Department of Inorganic and Analytical Chemistry, Faculty of Science
Invention: Molecular Layer Epitaxy (MЛЕ)

Inventor: Dr. WILLIAM (BILL) BREIER
Department of Biological Chemistry Faculty of Science
Invention: A Tool for the Detection of T4-Related Viruses in Human Plasma

Inventor: Dr. ETHAN GOLAN
The Lautenberg Center for Immunology, Faculty of Medicine
Invention: Novel CD40 Variant: Potential Target in the Therapy of Rheumatoid Arthritis

Inventor: Dr. IZYAN KLAUSNER
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: Novel Gastroenteritis Disease Forms

Inventor: Mr. NINA SCHERBEREN
Department of Pharmacology, School of Pharmacy, Faculty of Medicine
Invention: New Anti-epileptic Drug

Inventor: Mr. ALEXEI SUDR
Department of Biological Chemistry, Faculty of Science
Invention: Targeted DNAiNA Brain Cancer Therapy

Inventor: Mr. FERNANDO PINEDANO
Institute of Chemistry, Faculty of Science
Invention: Creating Multi-stress Resistance in Arabidopsis

Inventor: Mr. ALEXANDER HADZ
Department of Plant Sciences, Faculty of Science
Invention: Creating Multi-stress Resistance in Arbuscular Plants

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

Inventor: Dr. YOSSI GAFNI
Ben-Gurion University of the Negev, Faculty of Medicine
Invention: Skeletal Biotechnology Laboratory, Faculty of Dental Medicine

Inventor: Dr. GADI PILLED
Invention: Skeletal Biotechnology Laboratory, Faculty of Dental Medicine
Invention: Engineering of Complex Hybrid Tissues
Kaye Winners 2001

Inventor: MORDECHAI KAYE
Invention: UNIVERSITY OF LIFE SCIENCES, Faculty of Science

Inventor: Prof. EDMUNDO MIRIAM
Invention: Silberman Institute of Life Sciences, Faculty of Science

Inventor: Prof. SIMON BENEN
Invention: Department of Pharmacology, School of Pharmacy, Faculty of Medicine

Inventor: Prof. DANNY VINITSKY
Invention: Department of Computerized Information Systems

Inventor: Prof. SANDER KAYE
Invention: School of Education

Inventor: Prof. ANDREW SHAPIRO
Invention: Computer Authority, Mount Scopus

Inventor: Prof. ODED VESCAN
Invention: Department of Animal Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences

Inventor: Prof. YANIS KAYE
Invention: Department of Soil and Water Sciences, Faculty of Agricultural, Food and Environmental Quality Sciences

Inventor: Prof. ITAMAAR GATI
Invention: Department of Psychology, Faculty of Social Sciences, and School of Education

Inventor: Ms. SACHA KAYE
Invention: The Center for Multimedia-Assisted Instruction

Inventor: Dr. RIVKA KAYE
Invention: The Kibbutz Project

Inventor: Prof. EDMUNDO MIRIAM
Invention: Silberman Institute of Life Sciences, Faculty of Science

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Kaye Winners 2000

Inventor: Prof. MARIA WEINSTEIN-CASIN
Invention: Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine

Inventor: Prof. MEIR BUKER
Invention: Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine

Inventor: Prof. YAFI KHURI
Invention: Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine

Inventor: Prof. ASHER SHABER
Invention: Department of Pharmaceutics, School of Pharmacy, Faculty of Medicine

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Invention: The Center for Multimedia-Assisted Instruction

Inventor: Dr. RIVKA KAYE
Invention: The Kibbutz Project
Kaye Winners 1998

Inventor: Prof. YITZHAK WELNER
Invention: Institute of Chemistry, Faculty of Science
Invention: Microwave-Directed Exo-Gene Electrodes and Antigen/Reagent Arrays for Electrochemical and Potentiometrical Immunosensors and Immunosensor Devices

Inventors: Prof. NISSIM GARTI
Inventors: Cauca Institute of Applied Chemistry, Faculty of Science
Invention: A New Anti-Parkinson's Drug

Inventors: Prof. MICHAEL SCHREIBER, Dr. JACK WEINBAUM, Dr. LEOIDUS WEINBAUM and Dr. ASAF ZUCK
Invention: School of Applied Science, Faculty of Science
Invention: Polycrystalline Hg 12.2 Ray Detectors for Digital Radiology

Inventors: Prof. DAVID AZAR
Inventors: Institute of Chemistry, Faculty of Science
Invention: Reactive Organic Sol-gel Ceramic Materials

Inventor: Mr. ANIR ZIEBER
Inventors: Silberman Institute of Life Sciences, Faculty of Science
Invention: Genetic Engineering of Adansonia in Production in Transgenic Plants

Inventor: Dr. CAIEN MARQUIS
Inventors: Institute of Social Studies, Faculty of Humanities
Invention: Production of the Hebrew University of Jerusalem Bible Project

Inventors: Prof. RHODA BARDINI
Inventors: Silberman Institute of Life Sciences, Faculty of Science
Invention: Novel Seed-Plant Hybrid Varieties of the Okra Arishoke

Inventor: Mr. ALEXEI KAMYSHEV
Inventors: Cauca Institute of Applied Chemistry, Faculty of Science
Invention: Form II Aquaculture

Kaye Winners 1997

Inventors: Prof. YEHEZEL BARENBOIM and Dr. RUNA COHEN
Invention: Department of Biochemistry, Faculty of Medicine
Invention: Novel Approaches to Obtain Efficient and Stable Remote Drug Loading of Liposomes for Clinical Use

Inventors: Prof. ALBERTO GARRON and Dr. ROBERT GODIN
Invention: Hadassah University Hospital
Invention: A New Anti-Parkinson's Drug

Inventors: Prof. MAH BEND-IVI
Invention: Center for Medical Science
Invention: A New Anti-Parkinson's Drug

Inventors: Dr. DAVID BASHTY
Invention: Computational Center
Invention: Smart Educational Information System, Faculty of Science

Inventors: Prof. YADA SMITH
Invention: Faculty of Medicine
Invention: The Chemical Imaging System

Inventor: Mr. VARDU HERSHKO
Invention: School of Dentistry, Faculty of Dental Medicine
Invention: Osteogenic Growth Peptide (OGP)

Kaye Winners 1996

Inventor: Prof. SHAPIR DROSTIN
Invention: School of Pharmacy, Faculty of Medicine
Invention: Development of Topically-Applied Drugs for the International Market

Inventors: Prof. ABRAHAM STEINBERG
Inventors: Department of Plant Pathology and Microbiology, Faculty of Agriculture
Invention: A Novel Herbicide for the Control of Plant Diseases

Inventors: Prof. DAI DAVISON and Dr. MICHAEL KOGOSOV
Invention: Racah Institute of Physics, Faculty of Science
Invention: High-resolution Millimeter-wave Scanning Microscope

Inventors: Prof. CHAIM GIRON
Invention: Institute of Chemistry, Faculty of Science
Invention: Radar-activated Hybrid Enzymes for the Fast Discovery of New Peptide-Based Drugs

Inventor: Mr. MICHAEL HIRSCHHOE
Invention: Silberman Institute of Life Sciences, Faculty of Science
Invention: "Biochem Thinker" - A New Computer Program to be used by Biochemistry Students as a Tutorial Tool

Kaye Winners 1995

Inventor: Prof. ISRA ABAR
Invention: Bone Laboratory, Faculty of Dental Medicine
Invention: Osteogenic Growth Peptide (DGP)

Inventors: Prof. NISSIM GARTI
Invention: Cauca Institute of Applied Chemistry, Faculty of Science
Invention: New Emulsifiers

Inventor: Prof. YEHEZEL BARENBOIM
Invention: Department of Biochemistry, Faculty of Medicine
Invention: A New Approach to Obtain Efficient and Stable Remote Drug Loading of Liposomes for Clinical Use

Inventors: Dr. ROGER KATZ, Mr. AZHAR BURAN and Ms. RON BLOIDER
Invention: Institute of Chemistry, Faculty of Science
Invention: Development of Biosensor and Immunosensor Devices

Kaye Winners 1994

Inventor: Dr. B. SCHWARZBERG and Dr. MARCELLO CHAFFER
Invention: Department of Animal Sciences, Faculty of Agriculture
Invention: Membrane Vesicles of E. coli as a Potent Non-toxic Vaccine Against Colibacillosis in Poultry

Inventors: Prof. ODAD BASHY
Invention: Institute of Chemistry, Faculty of Science
Invention: Hebrew University Information Retrieval System

Inventors: Prof. HAAM BARRANOWITCH and Prof. NACHUM KEDAR
Invention: Department of Field and Vegetable Crops, Faculty of Agriculture
Invention: Development of Long Shelf-life Varieties