



RAMOT TEL AVIV
UNIVERSITY

RAMOT, THE TECH-TRANSFER OFFICE
OF TEL AVIV UNIVERSITY
**AS A KEY PLAYER IN INNOVATION
TECHNOLOGIES IN LIFE SCIENCES**





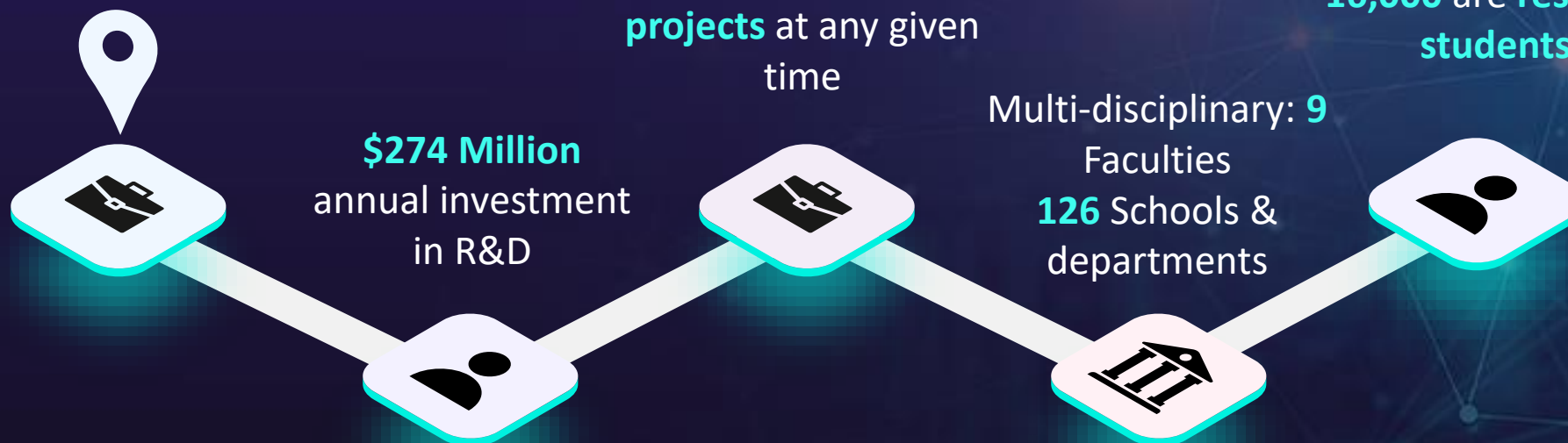
INDUSTRY'S FIRST CHOICE



[Click to watch our video](#)

#1

Tel Aviv University is Israel's largest and leading research institution, with **1,150 researchers**



IN TERMS OF
ENTREPRENEURSHIP AND
INNOVATION, **TEL AVIV
UNIVERSITY'S ALUMNI RANKS
AMONG THE BEST IN THE
WORLD**



6th
In the world

With the highest
number of
founders of start-
ups

7th
In the world

With the highest
number of
founders of start-
ups with
valuations of over
\$50M.

13th
In the world

With the highest
funding amount
for start-ups



Ramot was founded in 1973



Fully owned by Tel Aviv University



30 Headquarters employees and 90 research employees



71% of Ramot's employees are women



Commercializes the university technologies to the industry



Owner of all intellectual property created by the university's researchers



Bridges the gap between research and industry



INDUSTRY'S FIRST CHOICE



IP Protection



Value
Enhancement



Commercial
Transactions with
Industry

IP PROTECTION



Ramot is the **owner of the intellectual property** created by the university's researchers



Ramot has approximately **1,600 patents and patent applications** in its portfolio



About **60% in the life science** and **about 40% in Engineering, exact science** and other fields

Israel Innovation Authority funding programs – Technological Infrastructures Branch

Applied research in academia with no accompanying corp “KAMIN”

- ▶ 85% of the approved budget, up to a max budget of 440,000 NIS per year (for up to 2 years).
- ▶ Collaboration of 2 applicants from different institutions (or 2 from the same institute but different faculties) max budget of 660,000 NIS.
- ▶ Collaboration of 3 applicants max budget of 770,000 NIS.

Applied research in academia with an accompanying corp “NOFAR”

- ▶ 90% of the approved budget up to a max budget of NIS 550,000 per year (for up to 2 years). 10% of the budget is matched by corp.
- ▶ Collaboration of 2 applicants from different institutions (or 2 from the same institute but different faculties) max budget of 700,000 NIS.
- ▶ Collaboration of 3 applicants max budget of 810,000 NIS.

Technology commercialization from a research institution to an industrial corporation “MAGNETON”

- ▶ 66% funding of the approved budget up to a max budget of NIS 3.4 million per project (up to two years).
- ▶ Academy receives 100% funding.
- ▶ Academy has a full & equal ownership in the new IP created.

Leveraging R&D for Dual Use Technologies (civilian & military) “MEIMAD”

- ▶ In collaboration with MAFAT.
- ▶ Can be submitted as “Nofar” or “Magnetron”

Innovation Authority funding programs

“Magnet”/ Consortium “MAAGAD”

- ▶ Approved for two terms of 18 months each.
- ▶ 80% of the approved Maagad budget. Industry matches the remaining 20%.
- ▶ The amount of the Budget is decided together with the companies in the maagad.

Startup Division -Incubators Incentive Program “YEAR ZERO”

- ▶ 85% of the approved budget, up to a max budget of 1.5M NIS for one year of research in academy, to allow knowledge transfer from academy to an incubator company.
- ▶ 15% matched by Incubator.

Advanced Manufacturing “MOFET”

- ▶ Mofet phase I – company granted a budget of NIS100K for consultant. Academy can be subcontracted for POC.
- ▶ Mofet phase II – company granted a budget of up to NIS 5M; 30%-50% Grant. +10% for companies located in preferred A area.
+10% if Academy is subcontracted >20% of project budget.

VALUE ENHANCEMENT



Various Funds

BIRD | BARD
ERC - POC



Israel
Innovation
Authority



Sponsored
Research

COMMERCIAL TRANSACTIONS WITH INDUSTRY



License
Agreements



Establishment
of Companies



Evaluation
Agreements



Option
Agreements



Contract
Research
Agreements



Service
Agreements

COMMERCIAL TRANSACTIONS WITH INDUSTRY



Ramot holds equity
in over 100 startup
companies



Ramot establishes
around 15 companies
each year



Ramot established
broad connections with
funds, investors and
leading companies in
Israel and the world

OUR MAIN FIELDS



AGRICULTURE



BIOCONVERGENECE



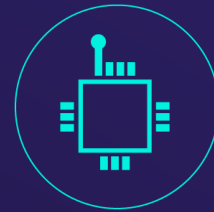
CANCER



DEFENSE & SECURITY



DIAGNOSTICS



ELECTRONICS &
ELECTRO-OPTICS



LIFE SCIENCES &
BIOTECHNOLOGY



ENERGY



ENVIRONMENTAL &
CLEANTECH



FOODTECH



ICT & MEDIA



MEDICAL DEVICES



MATERIAL
SCIENCES



MECHANICAL
ENGINEERING



NANOTECHNOLOGY



NEUROSCIENCE




PHARMACEUTICAL




ROBOTICS

○ RAMOT'S START-UP COMPANIES

 **37%** High-Tech

 **22%** Medical Devices

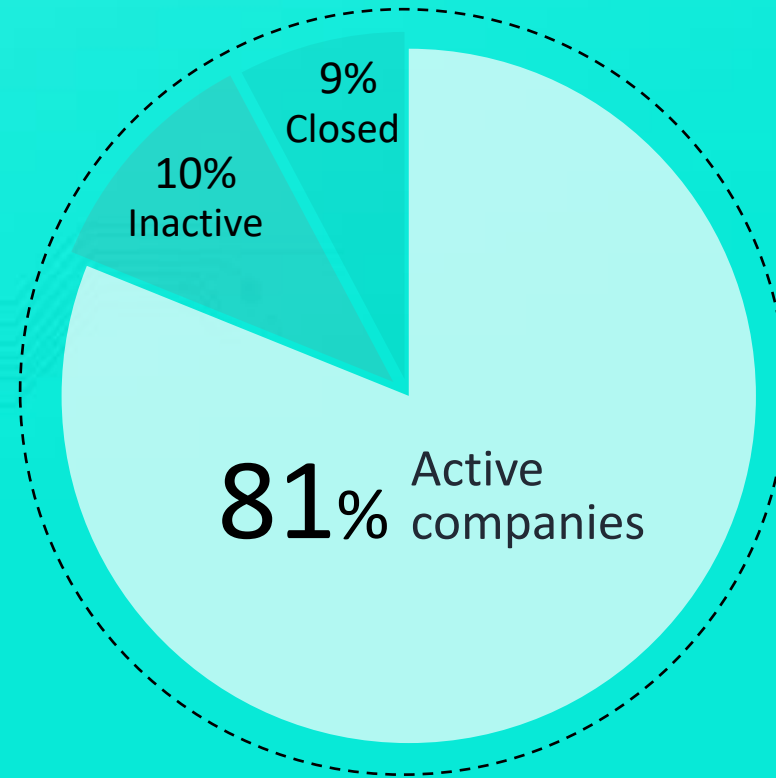
 **28%** Pharma

 **13%** *Other Fields:

*Agriculture, Food Tech, Energy, Materials and Electro-Optics

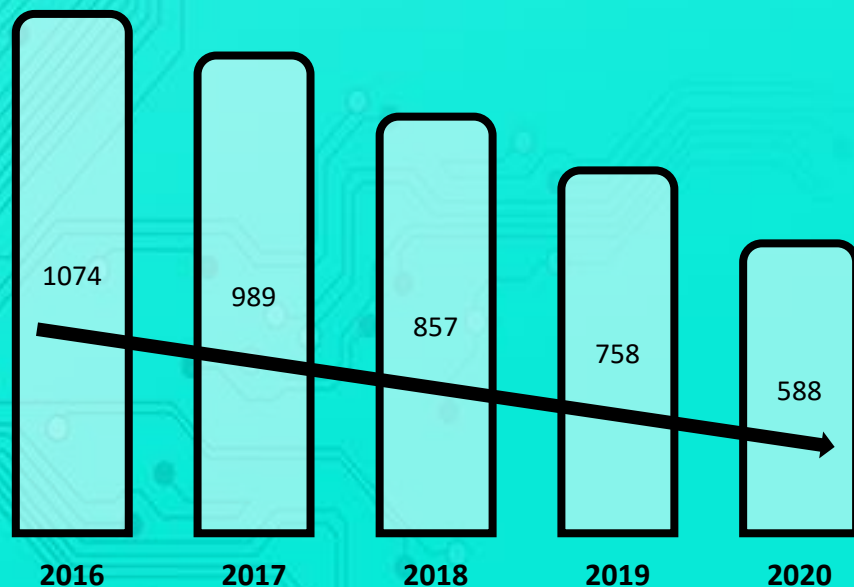
RAMOT'S START-UP STATISTICS

● From the companies established in the last 10 years

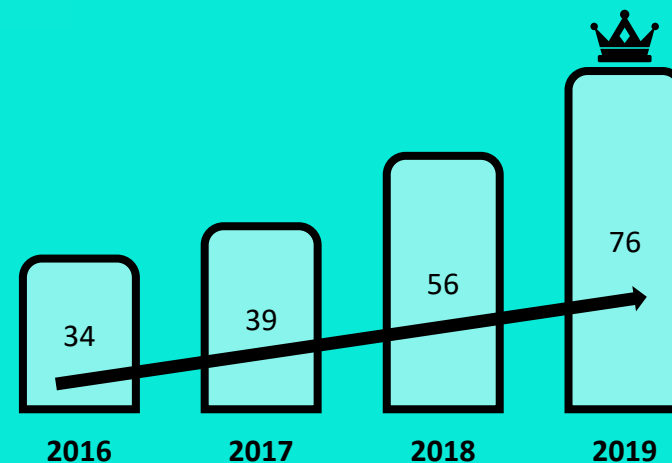


THE NEXT GROWTH OPPORTUNITY IS IN TECHNOLOGY TRANSFER

Decrease in the number of establishments of startups per year



An **increase** in the establishment of academy-based startups



Israeli start-up companies established around technologies developed by researchers at research institutions.

Source: Israeli innovation authority & Ministry of Science and Technology



RAMOT - ONE STOP SHOP



Keren Primor Cohen
Ramot's CEO

Professional Departments

Business Development



Sharon Adler
CFO



Michal Millo
Head of Intellectual
Property



**Liron Zusman
Azulay**
General Counsel



**Tal Israeli
Gassar**
Head of Marketing



Dr. Tali Aloya
VP, BD
Life Sciences



Dr. Noam Greenspoon
VP, BD
Physical Sciences



Yair Eran
VP, BD
High-Tech



Zvi Cheshnover
Director BD
High-Tech



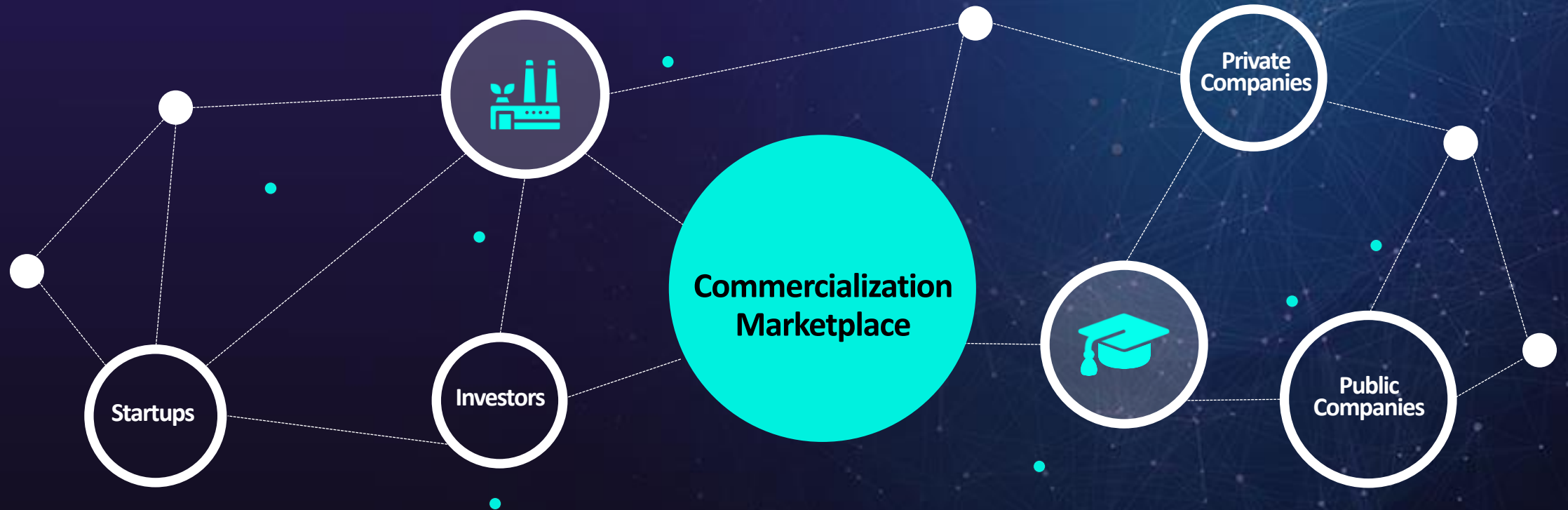
Dr. Shoshy Mizrahy
BD, Life Sciences



Moran Boimel
BD, Life Sciences

THE CONCEPT OF “COMMERCIALIZATION MARKETPLACE”

Ramot is connected to all the players in the ecosystem



HOW DO WE DO IT?

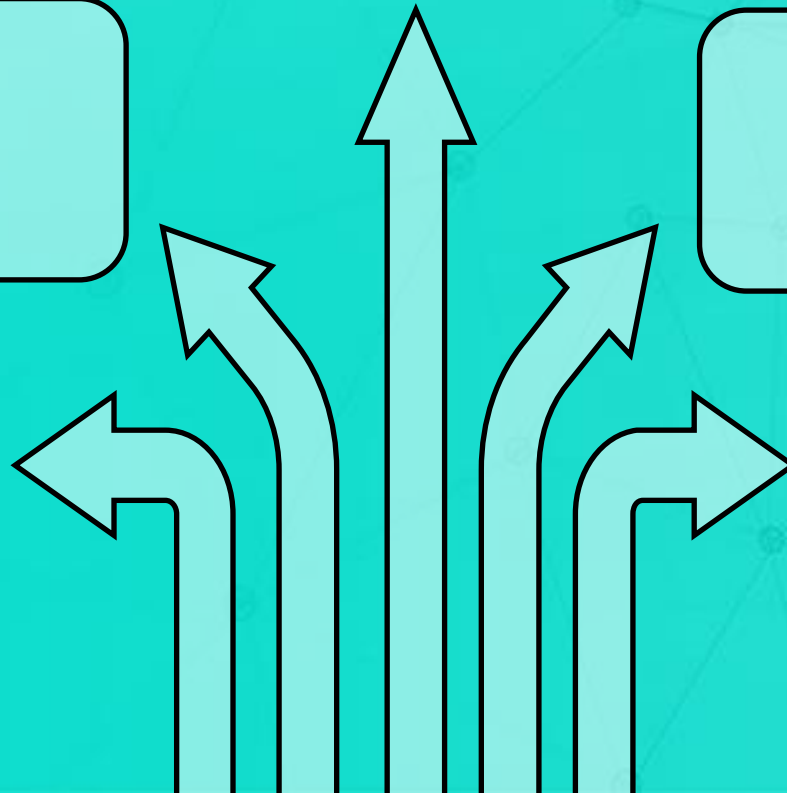
Universities and hospitals should welcome companies to sit physically nearby them and hold joint open spaces to allow free exchange of ideas and needs

Funds, accelerators, incubators and hubs.

Joint events and meetups with the industry should be held constantly

Applications for joint state-funded programs should be encouraged

Research collaborations should be promoted even when there is no relevant background IP





EVERY YEAR MORE LOCAL AND MULTINATIONAL COMPANIES
CHOOSE TO DO BUSINESS WITH TEL AVIV UNIVERSITY
RAMOT IS THE BRIDGE TO THOSE COLLABORATIONS



STARTUP COMPANIES



EVERYTHING YOU NEED IS ON OUR WEBSITE

www.ramot.org

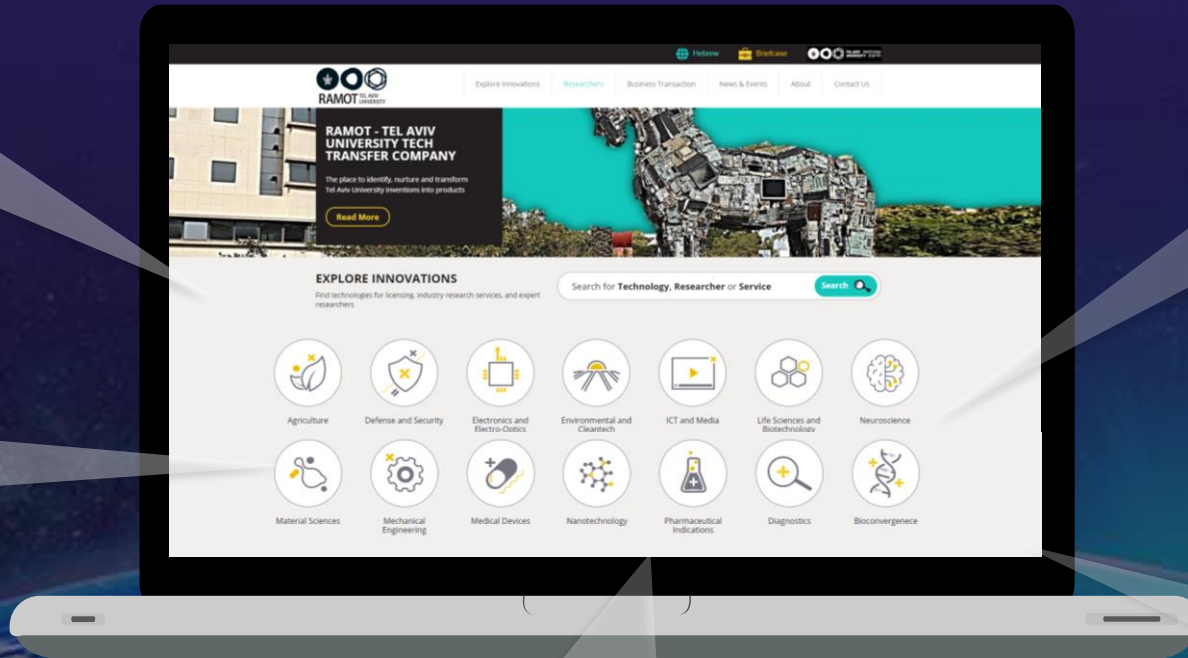
Information
about our
researchers

Laboratories

All the
available
Technologies

Events

Two newsletters



SYNTHETIC BIOLOGY





Prof. Tamir Tuller

- COMPUTATIONAL PLATFORM FOR ENHANCING GENE EXPRESSION FOR INCREASED PROTEIN YIELD AND VIRAL TITER
- MODELS FOR PROTEIN LEVELS OPTIMIZATION IN CHLOROPLASTS BASED ON MRNA-RRNA FOLDING AND INTERACTIONS
- A METHOD FOR ENGINEERING OF PLASMID FOR ORGANISM SPECIFIC EXPRESSION



Prof. Dan Peer

- NOVEL IONIZABLE LIPIDS FOR DELIVERY OF NUCLEIC ACIDS (MRNA, DNA, SIRNA)



Prof. Ehud Gazit

- A COST-EFFECTIVE ON-SITE CELL-FREE BIOMOLECULES MANUFACTURING



Prof. Ebenstein Yuval

- IN VITRO CRISPR/CAS9 ASSISTED TARGETING SCHEME (CATSCH) FOR LOW-COST, ULTRA-DEEP AND HIGH THROUGHPUT REGION OF INTEREST GENOMIC ANALYSIS



Dr. Ayala Lampel

- MINIMALISTIC PEPTIDE LIQUID DROPLETS
- BIO-INSPIRED LIQUID COMPARTMENTS FOR EFFICIENT ENCAPSULATION AND CONTROLLED RELEASE OF PAYLOADS

CANCER





Prof. Shomron Noam

- MIRNA FOR THE TREATMENT OF METASTATIC BREAST CANCER
- A CYTOSKELETAL PROTEIN PREDICTS DISEASE INCIDENCE, PROGRESSION, AND PROGNOSIS



Prof. Ronit Satchi-Fainaro

- A NOVEL NANOPARTICLE THAT SELECTIVELY DELIVERS RNAI OLIGONUCLEOTIDES TO TUMORS, PREVENTING SIDE EFFECTS TO TISSUES
- NOVEL CLASS OF TURN-ON NEAR-INFRARED PROBES FOR DIAGNOSIS AND IMAGING OF INFLAMMATION AND CANCER
- THERAPEUTIC TARGETING OF PD-1/PD-L1 BLOCKADE BY NOVEL SMALL-MOLECULE INHIBITORS
- ANTI-CANCER NANOTHERAPY: TARGETED POTENT CONJUGATED BRAF/MEK INHIBITORS
- 3D BIOPRINTING OF TUMOR MODELS FOR PERSONALIZED DRUG SCREENING AND DISEASE MODELING



Prof. Dan Peer

- NOVEL IONIZABLE LIPIDS FOR DELIVERY OF NUCLEIC ACIDS (MRNA, DNA, SIRNA)
- HARNESSING INHIBITORY RNA BASED-NANOPARTICLES FOR THERAPEUTIC INTERVENTION IN BLOOD CANCERS



Dr. Natalia Freund

- ISOLATION OF ANTI-MET MONOCLONAL ANTIBODIES FOR CANCER IMMUNOTHERAPY



Prof. Geiger Tamar

- EARLY DETECTION OF OVARIAN CANCER



Prof. Dan Canaani

- BROAD-SPECTRUM METASTASIS SUPPRESSING COMPOUNDS IN HUMAN SOLID TUMORS



Prof. Tamir Tuller

- APPARENTLY SILENT MUTATIONS THAT AFFECT SPLICING IN DISEASES



Prof. Marcelo Ehrlich

- AN ONCOLYTIC VIRUS THAT EXPLOITS IMMUNE DEFECTS OF CANCER CELLS



Prof. Pinkas-Kramarski Ronit

- NOVEL ANTI-TUMOR RESPONSE TREATMENT TARGETING ERBB RECEPTORS AND NUCLEOLIN INTERACTIONS

INFLAMMATION





Prof. Sagi-Eisenberg Ronit

Sackler Faculty of Medicine

● MAPPING THE SITES OF INTERACTION OF THE SMALL GTPASE RAB12 WITH ITS RILP FAMILY EFFECTOR PROTEINS

● We have recently shown that the small GTPase Rab12, which was previously shown to control housekeeping functions, such as autophagy and iron regulation^{1,2}, negatively regulates degranulation of mast cells (MCs), by binding and recruiting the RILP-dynein motor complex to the MC secretory granules (SGs), and driving their retrograde transport, thus restricting degranulation³.

● These results have marked the Rab12-RILP complex as an important regulator of allergy, mast cell-dependent inflammation, and other processes that rely on Rab12-regulated retrograde transport. We and others have also shown that Rab12 additionally binds the two other members of the RILP family, RILP-Like 1 (RILP-L1) and RILP-Like 2 (RILP-L2), whose precise functions are presently unknown, yet distinct from RILP, as neither RILP-L1, nor RILP-L2 bind the motor protein dynein. Rab12 has been recently identified as a physiological substrate of the leucine-rich-repeat kinase 2 (LRRK2), mutations in which comprise the most common cause of familial Parkinson's disease (PD) and gene polymorphism either positively or negatively correlate with PD risk.

● [LINK TO PROJECT](#)

FERTILITY



EVALUATING GENETIC DAMAGE IN HUMAN SPERM



**Prof. Yuval
Ebenstein**

School of
Chemistry

**Prof. Dror
Meirow**

Sheba Medical
Center

- RADD method is sensitive and accurately detects ssDNA and adducts damage.
- Sperm DNA fragmentation testing was recently recommended by the WHO, due to its impact on fertilization, conception, infertility treatment outcomes, recurrent pregnancy loss and defective embryo development. Existing methods of sperm DNA analysis are only focused on double strand (ds)DNA breaks. We previously introduced RADD method for quantifying single strand (ss)DNA damage in human sperm.
- In a clinical setting, RADD detected significantly high ssDNA breaks that were not detected by two currently practiced “golden standard” methods for detecting DNA damage.

CARDIOLOGY



● SK4 K⁺ CHANNEL BLOCKERS: A NEW TREATMENT FOR CARDIAC ARRHYTHMIAS



Prof. Attali Bernard

Physiology Pharmacology
Sackler Faculty of Medicine

- We discovered a previously unidentified target in the heart, namely the SK4 calcium-activated K⁺ channels, which are functionally expressed in pacemaker cells and atrial cardiomyocytes. They are crucial for proper cardiac rhythm and represent a completely new therapeutic target for the treatment of cardiac arrhythmias. SK4 channel blockers successfully prevented cardiac arrhythmias in in vitro and in vivo models of ventricular arrhythmias.
- Thanks to their impact on the refractory period and the maximum diastolic potential, SK4 channel blockers are valuable for preventing cardiac arrhythmias. As a proof of concept, we used in vitro and in vivo models of cardiac arrhythmias, including human induced-pluripotent stem cells from diseased patients and transgenic mice to show that SK4 channel blockers successfully prevent cardiac arrhythmias.

● [LINK TO PROJECT](#)

WOMEN'S HEALTH





Prof. Shomron Noam

Cell and Developmental Biology
Medicine-Sackler Faculty

● AN EARLY STAGE SCREENING TOOL FOR DISTINGUISHING PREGNANT WOMEN HAVING AN INCREASED RISK OF DEVELOPING PREECLAMPSIA

● Preeclampsia is one of the most dangerous pregnancy complications occurs in the second or third trimester, affecting 3–8% of pregnancies; it is the leading cause of maternal and perinatal mortality and morbidity.
Preeclampsia cannot reliably be predicted as no tests available in early pregnancy.

● The present invention are particularly advantageous as they provide minimally-invasive means for early detection of preeclampsia risk and useful for determining whether a pregnant woman need for early preventive medical treatment and/or of monitoring for development of preeclampsia..

● [LINK TO PROJECT](#)

INFECTIOUS DISEASES





Prof. Ronit Satchi-Fainaro

- DENDRITIC CELL-TARGETED NANOVACCINE FOR SARS-COV-2 WITH INCORPORATED IMMUNE POTENTIATORS



Dr. Maayan Gal

- SAFE PEPTIDES AGAINST CANDIDA AND FUNGI



Dr. Natalia Freund

- UNIQUE COCKTAIL OF NEUTRALIZING ANTIBODIES AGAINST SARS-COV-2



Prof. Doron Shabat

- NEW CHEMILUMINESCENT PROTEASE PROBE FOR RAPID, SENSITIVE, AND INEXPENSIVE DETECTION OF LIVE MYCOBACTERIUM TUBERCULOSIS



Prof. Fridman Micha

- RAPID DETECTION OF DRUG RESISTANCE IN PATIENTS SUFFERING FROM INVASIVE FUNGAL INFECTIONS



Prof. Nir Ben-Tal

- ANTIVIRAL AGENTS FOR AMANTADINE-RESISTANT INFLUENZA A



Prof. Adler-Abramovich Lihi

- ANTIBACTERIAL AND ANTIBIOFILM ACTIVITY OF SELF-ASSEMBLED NANOSTRUCTURES
- INCREASED ENZYME SHELF-LIFE BY ENCAPSULATION IN PEPTIDE-BASED MATERIALS



Dr. Wine Yariv

- THERAPEUTIC MONOCLONAL ANTIBODIES TO COMBAT MULTIDRUG-RESISTANT PATHOGENIC BACTERIA
- ANTIBODY-BASED BIOSENSOR DIAGNOSTIC TOOL FOR PATHOGENIC BACTERIA DETECTION

DENDRITIC CELL-TARGETED NANOVACCINE FOR SARS-COV-2 WITH INCORPORATED IMMUNE POTENTIATORS

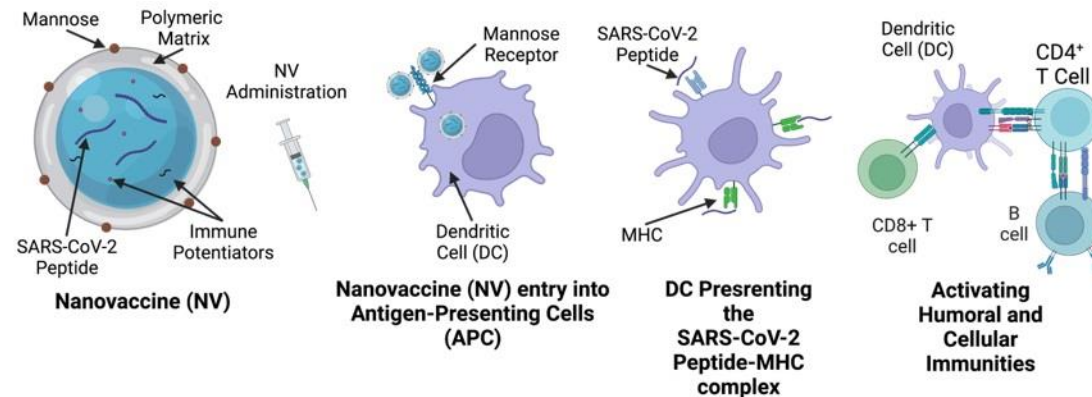


Prof. Ronit Satchi-Fainaro

Head, Cancer Research and
Nanomedicine Laboratory

During the SARS-CoV-2 pandemic, nanoscale vaccine technologies (e.g., mRNA vaccines) have proven superiority over conventional vaccines in terms of production speed and modularity. Unfortunately, the restricted global distribution results in vaccine inequity that significantly contributes to the virus's continuous spreading as vaccine allocation to developing countries are highly influenced by politics, cost, and scalability. For instance, the distribution of vaccines that require greater logistical efforts, such as cold chain delivery and complex vaccine administration by healthcare authorities, faces a challenge, especially in countries with restricted resources.

A unique vaccine platform against COVID-19, which co-delivers SARS-CoV-2 peptide antigens, adjuvants, and immunosuppression modulators into dendritic cells (DC), resulting in a more potent, cost-efficient, and not cold-chain dependent nanovaccine that can be easily administrated also in less developed countries.



[LINK TO PROJECT](#)

METABOLIC





Prof. Ehud Gazit

Ph.D. FRSC FNASc OSSI

Professor and Endowed Chair at the School of Molecular Cell Biology and Biotechnology, Faculty of Life Sciences and the Department of Materials Science and Engineering, Faculty of Engineering

● IAPP OLIGOMERS AS A TARGET FOR TYPE 2 DIABETES NOVEL IMMUNOTHERAPY

- The transition of soluble peptides and proteins into highly-ordered amyloid structures is associated with major human disorders including Alzheimer's disease (AD), Parkinson's disease (PD), Prion disorders and Type II Diabetes (T2D). While amyloid fibrils were previously considered as the main pathological elements that facilitate tissue degeneration observed in amyloid-related disorders, there is an increased body of evidence which suggest a key role for early soluble oligomeric assemblies in the process of cytotoxicity and cell death. Gazit group was extensively involved in the paradigm shift in several systems.
- Stabilized human IAPP (hIAPP) oligomers were used for the development of active immunization of type 2 diabetes. This promising novel approach for the treatment of type 2 diabetes is doable due to the establishment of a new protocol for the formation of stable islet amyloid polypeptide (IAPP) amyloidal soluble oligomers in vitro, leading to isolation of specific anti-oligomers antibodies.
- [LINK TO PROJECT](#)



Prof. Ehud Gazit

Ph.D. FRSC FNASc OSSI

Professor and Endowed Chair at the School of Molecular Cell Biology and Biotechnology, Faculty of Life Sciences and the Department of Materials Science and Engineering, Faculty of Engineering

HOMOCYSTEINE FIBRILLAR ASSEMBLIES DISPLAY CROSSTALK WITH ALZHEIMER'S DISEASE AMYLOID POLYPEPTIDE

High levels of homocysteine (Hcy) are reported as a risk factor for Alzheimer's disease (AD). Correspondingly, inborn hyperhomocysteinemia is associated with an increased predisposition to the development of dementia in later stages of life. Furthermore, despite the apparent association between protein aggregation and AD, attempts to develop a therapy that targets explicitly this process have not been successful

Along with AD, high levels of Hcy are involved in many other diseases, such as diabetes, neurological diseases, vascular disease, age-related macular degeneration, cancer, and hearing loss. Thus, the formation of amyloid-like fibrils by Hcy, their toxicity, and cross-seeding capability are highly relevant to many biological and medicinal fields.

[LINK TO PROJECT](#)

NEURO





Prof. Inna Stutsky

- TARGETING MITOCHONDRIAL IGF-1 RECEPTORS AS THERAPY FOR NEURODEVELOPMENTAL DISORDERS
- INHIBITION OF DHODH AS A NEW THERAPEUTIC TOOL TO RESCUE HIPPOCAMPAL HYPERACTIVITY ASSOCIATED WITH ALZHEIMER'S DISEASE



Prof. Itai Benhar

- AN EFFECTIVE SEMA3A ANTIBODY AS A THERAPY FOR OPTIC NERVE NEURODEGENERATIVE DISEASES



Prof. Perlson Eran

- MIR126-5P FOR ALS TREATMENT



Prof. Ehud Gazit

- SYNTHETIC 9-CIS BETA CAROTENE FOR TREATMENT OF RETINAL DEGENERATION



Prof. Daniel Michaelson

- DEVELOPMENT OF ALZHEIMER DISEASE THERAPY BASED ON COUNTERACTING THE PATHOLOGICAL EFFECTS OF APOE4



Prof. Lederkremer Gerardo Zelmar

- NOVEL SPECIFIC DISEASE-MODIFYING PERK ACTIVATOR FOR HUNTINGTON'S DISEASE



Dr. Lior Mayo

- GLIOBLASTOMA REGRESSION BY REGULATING ASTROCYTES' IMMUNOMETABOLIC SIGNALING



**Prof. Lederkremer Gerardo
Zelmar**

Cell Research and Immunology

NOVEL SPECIFIC DISEASE-MODIFYING PERK ACTIVATOR FOR HUNTINGTON'S DISEASE

There is no efficient therapy at present for Huntington's disease (HD) nor for any other neurodegenerative disease, including Alzheimer's and Parkinson's diseases. No disease-modifying approaches exist. Gene therapy-based clinical trials have failed so far, highlighting the need for other approaches. These include the recent interruption of antisense oligonucleotide clinical trials for HD.

- A novel small molecule activator of the PERK sensor of the UPR called MK-28 was developed.
- MK-28 showed excellent efficacy - compensates for ER stress induced cytotoxicity and rescues HD cellular and mouse models from cell death.
- Motor function is significantly improved and life expectancy is extended in HD mouse models.
- MK-28 is specific - selectivity for PERK was shown in a kinase panel with purified components and lack of activity in PERK knockout cells.
- MK-28 is a small BBB-penetrating molecule with a favorable pharmacokinetics profile.
- MK-28 is non-toxic and safe - tested in vitro and in vivo.

[LINK TO PROJECT](#)

GLIOBLASTOMA REGRESSION BY REGULATING ASTROCYTES' IMMUNOMETABOLIC SIGNALING



Dr. Lior Mayo

Molecular Cell Biology &
Biotechnology

● We found that the depletion of reactive astrocytes regresses glioblastoma and prolongs mouse survival. Analysis of the tumor-associated astrocyte transcriptome, revealed that astrocytes initiate transcriptional programs that shape the immune and metabolic compartments in the glioma microenvironment. Specifically, their expression of CCL2 and CSF1 governs the recruitment of tumor-associated macrophages and promotes a pro-tumorigenic macrophage phenotype.

● We demonstrate that astrocyte-derived cholesterol is key to glioma cell survival, and that targeting astrocytic cholesterol efflux, via ABCA1, halts tumor progression. In summary, astrocytes control glioblastoma pathogenicity by reprogramming the immunological properties of the tumor microenvironment and supporting the non-oncogenic metabolic dependency of glioblastoma on cholesterol.

● [LINK TO PROJECT](#)

TISSUE REGENERATION





Dr. Weinberg Evgeny

- METHOD FOR ISOLATING ORAL MUCOSA-DERIVED MESENCHYMAL STEM CELLS FOR TISSUE AND ORGAN REGENERATION



Prof. Adler-Abramovich Lihi

- PEPTIDE-BASED BIOMIMETIC HYDROGELS FOR BONE REGENERATION
- STABILIZING GELATIN-BASED BIOINKS UNDER PHYSIOLOGICAL CONDITIONS BY INCORPORATION OF ETHYLENE-GLYCOL-CONJUGATED FMOC-FF PEPTIDES

RARE GENETIC DISEASES





Prof. Ehud Gazit
Ph.D. FRSC FNASc OSSI

Professor and Endowed Chair at the School of Molecular Cell Biology and Biotechnology, Faculty of Life Sciences and the Department of Materials Science and Engineering, Faculty of Engineering

● DEVELOPMENT OF INNOVATIVE TREATMENT AGENTS FOR PHENYLKETONURIA AND NEW DIAGNOSTIC BIOMARKERS

● Today, the main effort is reduction of phenylalanine concentration rather than avoiding its aggregation into toxic species. We provide a completely new solution that can allow phenylalanine presence in the blood but with no adverse effect. Thus, we provide a new target, which will further lead to the development of a new therapeutic agent(s) for the treatment of PKU

● We recently provided a patented mechanistic explanation and a novel therapeutic target for phenylketonuria (PKU), one of the most common among the rare inborn error of metabolism (IEM) disorders with a continuously expanding market. Drugs to be developed in this path could be disease-modifying. And have the tremendous potential to help a wide range of PKU patients in the future.

● [LINK TO PROJECT](#)

DIAGNOSTICS





Prof. Ehud Gazit

- A COST-EFFECTIVE ON-SITE CELL-FREE BIOMOLECULES MANUFACTURING



Prof. Jonathan Leor

- AUTOMATED PROCESSING OF NON-INVASIVE THERMAL IMAGING OF ORGAN-SPECIFIC DISEASES TO DETECT INFLAMMATION AND VASCULAR DYSFUNCTION



Prof. Sharan Roded

- LEVERAGING GENE PANEL SEQUENCING DATA FOR MUTATIONAL SIGNATURE ANALYSIS WITH APPLICATIONS TO PERSONALIZED TREATMENT



Prof. Tamir Tuller

- APPARENTLY SILENT MUTATIONS THAT AFFECT SPLICING OTHER DISEASES

COSMETICS





Prof. Adler-Abramovich Lihi

Oral Biology,
Medicine-Sackler Faculty

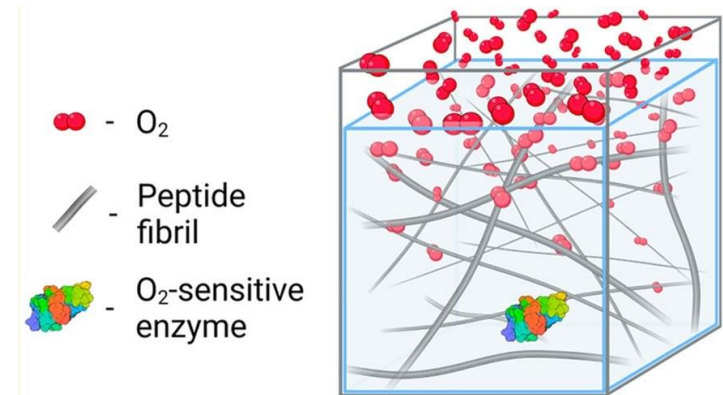
● ANTI-OXIDATION AGENT TO BE INCORPORATED INTO COSMETICS LEADING TO MORE STABLE AND LONGER SHELF-LIFE PRODUCTS

● Oxidation is the reaction of Oxygen with a wide array of reactants. In cosmetics, product oxidation leads to spoilage of ingredients used in the manufacturing products, the inactivation of oxygen-sensitive enzymes, shortening of product shelf-life, and discolorations of end-product.

Self-assembling peptide-based hydrogels are simple hydrogels that can be combined with a wide variety of ingredients and are able to engage O_2 and significantly limit its diffusion and penetration.

● The hydrogels nanofibers can be incorporated in topical cosmetics to protect the skin.
Incorporation of the hydrogel into cosmetics may prevent discoloration caused by oxidation
Prolong shelf-life of manufacturing reagents or end-products

● [LINK TO PROJECT](#)



RESEARCH & DEVELOPMENT



RESEARCH & DEVELOPMENT



Prof. Tamir Tuller

- COMPUTATIONAL PLATFORM FOR ENHANCING GENE EXPRESSION FOR INCREASED PROTEIN YIELD AND VIRAL TITER
- MODELS FOR PROTEIN LEVELS OPTIMIZATION IN CHLOROPLASTS BASED ON MRNA-RRNA FOLDING AND INTERACTIONS
- A METHOD FOR ENGINEERING OF PLASMID FOR ORGANISM SPECIFIC EXPRESSION
- EFFICIENT INFORMATION CODING IN LIVING ORGANISMS



Prof. Dan Peer

- NOVEL IONIZABLE LIPIDS FOR DELIVERY OF NUCLEIC ACIDS (MRNA, DNA, SIRNA)



Dr. Maayan Gal

- ALGORITHM FOR THE DISCOVERY OF PEPTIDES BINDING TARGET PROTEIN-PROTEIN INTERACTION SURFACE



Prof. Adler-Abramovich Lihi

- INCREASED ENZYME SHELF-LIFE BY ENCAPSULATION IN PEPTIDE-BASED MATERIALS
- IMMUNOMODULATORY FIBROUS HYALURONIC ACID-FMOC-DIPHENYLALANINE-BASED HYDROGEL INDUCES BONE REGENERATION



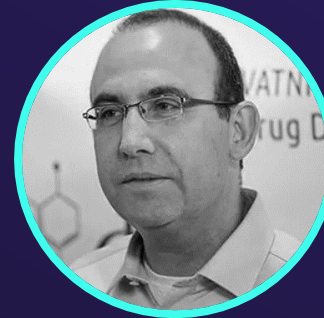
Prof. Ebenstein Yuval

- IN VITRO CRISPR/CAS9 ASSISTED TARGETING SCHEME (CATSCH) FOR LOW-COST, ULTRA-DEEP AND HIGH THROUGHPUT REGION OF INTEREST GENOMIC ANALYSIS
- MIRACLE- MIRNA BASED DIAGNOSIS



Dr. Ayala Lampel

- BIO-INSPIRED LIQUID COMPARTMENTS FOR EFFICIENT ENCAPSULATION AND CONTROLLED RELEASE OF PAYLOADS
- MINIMALISTIC PEPTIDE LIQUID DROPLETS



Prof. Ehud Gazit

- A COST-EFFECTIVE ON-SITE CELL-FREE BIOMOLECULES MANUFACTURING



Dr. Ben M. Maoz

- CULTURING A PLURALITY OF CELL TYPES ON A 3D-PRINTED MICROFLUIDIC CHIP
- THE ORGANIZER – ORGAN-ON-A-CHIP LINKAGE PLATFORM



Prof. Vered Padler Karavani

- ANTIBODIES TO CANCER GLYCOSYLATION AND USES FOR CANCER DIAGNOSTICS



Prof. Ran Gilad Bacharach

- MACHINE LEARNING-BASED INVARIANT DATA REPRESENTATION



Prof. Irit Gat Vix

- MARKERS OF RESISTANCE AND TOLERANCE:
- UNDERSTANDING INFLAMMATION AT THE MOLECULAR LEVEL FOR PERSONALIZED THERAPY



Prof. Fridman Micha

- FLUCONAZOLE-COX INHIBITOR HYBRIDS: A DUAL-ACTING CLASS OF ANTIFUNGAL AZOLES



WHERE INNOVATION IS CREATED AND MEETS WITH INDUSTRY