

ISBE 2022 - LIST OF POSTERS

Sunday, December 25, 2022

12:30-14:00 POSTER SESSION, Posters Area

- P-1** Rapidly dissolving microneedles for transdermal delivery of steroid-loaded nanoparticles for the treatment of skin disorders
Aiman Abu Ammar¹, Hala Dawud¹
Department of Pharmaceutical Engineering, Azrieli College of Engineering Jerusalem, Jerusalem, Israel
- P-2** Polypeptide-Peptide Nanoparticles as a Drug Delivery Platform
Polina Aibinder¹, Ifat Cohen-Erez¹, Hanna Rapaport^{1,2}
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
²*Ilse Katz Institute for Nano-Science and Technology (IKI), Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- P-3** Quantification of Therapeutic Antibodies Conjugated to Gold Nanoparticles
Adi Anaki¹, Menachem Motiei¹, Tamar Sadan¹, Rachela Popovtzer¹
Faculty of Engineering and The Institute of Nanotechnology and Advanced Materials, Bar-Ilan University, Ramat Gan, Israel
- P-4** Tuning the self-assembly of indigo carmine molecules by confinement of polymeric nanocapsules
Shaked Ashkenazi¹, Pnina Matsanov¹, Naama Koifman², Ellina Kesselman², Inbal Maor¹, Ilan Shumilin³, Daniel Harries³, Iris Sonia Weitz¹
¹*Department of Biotechnology Engineering, ORT Braude College of Engineering, Karmiel, Israel*
²*The Wolfson Department of Chemical Engineering, The Technion Center for Electron Microscopy of Soft Matter, Haifa, Israel*
³*The Center for Nanoscience and Nanotechnology, and the Fritz Haber Research Center, Institute of Chemistry, The Hebrew University, Jerusalem, Israel*
- P-5** Development of a spheroid model to simulate drug penetration in cancer tumors
Maytal Avrashami¹, Dana Meron Azagury¹, Yosi Shamay¹
Biomedical Engineering, Technion, Haifa, Israel
- P-6** Multiplexed Biomarker Detection with Porous Silicon-based Aptasensors in 3D-Printed Microfluidic Devices
Kayan Awawdeh¹, Marc Buttkewitz², Janina Bahnemann², Ester Segal¹
¹*Department of Biotechnology and Food Engineering, Technion, Haifa, Israel*
²*Institute of Technical Chemistry, Leibniz University Hannover, Hannover, Germany*
- P-7** Personalized nanomedicine for osteosarcoma
Orr Bar Natan¹, Yosi Shamay¹
Biomedical Engineering, Technion, Haifa, Israel
- P-8** A green formulation for superhydrophobic coatings based on Pickering emulsion templating for anti-biofilm applications
Raz Cohen¹
Food Science and Agriculture, Volcani Center, Rehovot, Tel Aviv, Israel

- P-9** Silver-coated nanoporous silicon as a surface-enhanced Raman scattering (SERS) immunosensor for the detection of *E. coli* in milk
Muthukumar Divagar¹, Giorgi Shtenberg¹
Institute of Agricultural Engineering, Agricultural Research Organization- Volcani Institute, rishon lezion, Israel
- P-10** Developing Nanosized Algal-Based Oral Drug Delivery System
Eliyahu Drori¹, Aharon Azagury¹
Biotechnology and Chemical Engineering, Ariel University, Ariel, Israel
- P-11** The fate of an anti-HER2 nanobody: mode of action studies in cancer cells
Shir Eden¹, Ziv Azoulay¹, Niv Papo¹
Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University, Beer Sheva, Israel, Israel
- P-12** Alpha-Emitters Radiation Therapy and PSMA-targeting-therapy as a combination modality for prostate cancer
Amit Eisenberg¹
Shraga Segal Department of Microbiology and Immunology, Ben-Gurion University of the Negev, Be'er Sheva, South, Israel
- P-13** Molecular Motors on Microtubule Tracks Created with Nano Fountain Pen
Orna Fridman¹, Himanshu Pandey², Larisa Gheber², Levi A. Gheber¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University, Beer-Sheva, Israel*
²*Department of Chemistry, Ben-Gurion University, Beer-Sheva, Israel*
- P-14** Protection of oxygen sensitive enzymes by peptide hydrogel
Itzhak Grinberg^{1,2,3}, Oren Ben-Zvi⁴, Asuka A. Orr⁵, Dror Noy⁶, Phanourios Tamamis⁵, Iftach Yacoby⁴, Lihl Adler-Abramovich^{1,2,3}
¹*Department of Oral Biology, The Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, None Selected, Israel*
²*The Center for Nanoscience and Nanotechnology, Tel Aviv University, Tel Aviv, None Selected, Israel*
³*The Center for the Physics and Chemistry of Living Systems, Tel Aviv University, Tel Aviv, None Selected, Israel*
⁴*School of Plant Sciences and Food Security, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, None Selected, Israel*
⁵*Artie McFerrin Department of Chemical Engineering. Department of Materials Science and Engineering, Texas A&M University, College Station, Texas, USA*
⁶*The Department of Molecular and Computational Biosciences and Biotechnology, Migal - Galilee Research Institute, Kiryat Shmona, Israel*
- P-15** Synthetic Biology-based Biochip for Early Detection of Inflammatory Bowel Diseases
Shir Hochwald-Liber¹, Yossi Ben David², Omry Koren³, Ehud Banin², Nitsan Maharshak⁴, Rachela Popovtzer¹
¹*Faculty of Engineering, Bar-Ilan University, Ramat-Gan, Israel*
²*Faculty of Life Sciences, Ban-Ilan University, Ramat-Gan, Israel*
³*Faculty of Medicine, Bar-Ilan University, Safed, Israel*
⁴*Department of Gastroenterology and Liver Diseases, Tel Aviv Sourasky Medical Center, Tel-Aviv, Israel*
- P-16** Shining light in blind alleys: deciphering bacterial attachment in silicon microstructures
Xin Jiang¹, Heidi Leonard¹, Sofia Arshavsky-Graham¹, Sarel Halachmi^{2,3}, Ester Segal¹
¹*Department of Biotechnology and Food Engineering, Technion, Haifa, Israel*
²*Department of Urology, Bnai Zion Medical Center, Haifa, Israel*
³*Department of Medicine, Technion, Haifa, Israel*

- P-17** Fabrication of Antimicrobial Polymeric Films by Compression Molding of Peptide Assemblies and Polyethylene
Michaela Kaganovich¹, Koranit Shlosman², Evgeniya Goldman², Marina Benchis³, Tamar Eitan³, Rotem Shemesh², Abraham Gamliel³, Meital Reches¹
¹*Chemistry, The Hebrew University of Jerusalem, Jerusalem, Israel, Israel*
²*Carmel Olefins Ltd., Bazan group, Haifa, Israel*
³*Laboratory for Pest Management Research, Institute of Agricultural Engineering, ARO – the Volcani Center, Rishon LeZion, Israel*
- P-18** Competitive blocking of LRP4-sclerostin binding interface strongly promotes bone anabolic functions
Svetlana Katchkovsky¹, Biplab Chatterjee¹, Chen-Viki Abramovitch-Dahan¹, Niv Papo², Noam Levaot^{1,3}
¹*Department of Physiology and Cell Biology, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
²*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering and the National Institute of Biotechnology in the Negev, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
³*Regenerative Medicine and Stem Cell Research Center, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- P-19** Phone camera coupled nano biosensor using mighty sensitive transparent reusable upconversion paper
Kamaljit Kaur¹, Vijayakumar Shanmugam¹
Chemical Biology Unit, Institute of Nanoscience and Technology, Mohali, Punjab, India
- P-20** Development of a poc immunoassay for simultaneous detection of drug and neutralizing anti-drug antibodies in patients receiving mab treatment
Frans Kokojka¹, Sigal Pressman², Yehuda Chowars², Robert Marks¹
¹*Biotechnology Engineering, Ben-Gurion University of the Negev, Be'er Sheva, Israel*
²*Gastroenterology, Rambam Health care Campus, Haifa, Israel*
- P-21** APPI-derived cyclic peptide enhances A β 42 aggregation and reduces A β 42-mediated cytotoxicity
Shiran Lacham-Hartman^{1,2}, Reut Moshe^{1,2}, Shani Ben-Zichri³, Yulia Shmidov⁴, Ronit Bitton^{4,5}, Raz Jelinek^{3,5}, Niv Papo^{1,2}
¹*Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
²*National Institute of Biotechnology, Ben-Gurion University of the Negev, Beer Sheva, Israel*
³*Department of Chemistry, Ben-Gurion University of the Negev, Beer Sheva, Israel*
⁴*Department of Chemical Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
⁵*Ilze Katz Center for Nanotechnology, Ben-Gurion University of the Negev, Beer Sheva, Israel*
- P-22** Nitrogenase-Based Nano-Bio-Hybrid Systems for Photo-biocatalytic Processes
Matan Meirovich¹, Oren Bachar¹, Omer Yehezkeli¹
Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel
- P-23** Prediction of cancer nanomedicines co-assembled from meta-synergistic drug pairs
Dana Meron Azagury¹, Ben Friedmann Gluck^{1,2}, Danna Niezni¹, Hagit Sason¹, Yosi Shamay¹
¹*Faculty of Biomedical Engineering, Technion, Haifa, Haifa, Israel*
²*Faculty of Electrical Engineering, Technion, Haifa, Haifa, Israel*

- P-24** Polydopamine copolymers for stable drug nanoprecipitation.
Danna Niezni¹, Yuval Harris¹, Hagit Sason¹, Maytal Avrashami¹, Yosi Shamay¹
biomedical engineering, Technion, Haifa, Israel, Israel
- P-25** A comparative study: aptasensor vs. immunosensor for ultrasensitive detection of aflatoxin B1 using Ag-PSi SERS scaffolds
Narsingh Raw Nirala¹, Narsingh Raw Nirala¹
Institute of Agricultural Engineering, ARO, the Volcani Center, Bet Dagan 50250, Rishon Lezion, Israel
- P-26** Gold nanoparticles decoration of zinc oxide nanostructures for bio-sensing applications
Rakefet Ofek Almog¹, Eden Shashar², Yelena Sverdlov², Kian Kadan-Jamal², Yosi Shacham-Diamand²
¹*Materials Engineering, Azrieli College of Engineering, Jerusalem, Jerusalem, Israel*
²*Department of Physical Electronics, School of Electrical Engineering, Faculty of Engineering, Tel Aviv University, Tel Aviv, Israel*
- P-27** DNAzyme-based biosensor for sub-ppb lead ions detection using porous silicon Fabry–Pérot interferometer
Shirly Reingewirtz^{1,2}, D. Nanda Kumar¹, Moshe Shemesh³, Ran Suckeveriene⁴, Giorgi Shtenberg¹
¹*Institute of Agricultural Engineering, ARO, Volcani Institute, Rishon LeZion, Israel*
²*Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem, Rehovot, Israel*
³*Department of Food Science, Institute for Postharvest Technology and Food Sciences, ARO, Volcani Institute, Rishon Lezion, Israel*
⁴*Department of Water Industry Engineering, Kinneret Academic College, Jordan Valley, Israel*
- P-28** Developing peptide inhibitors for tyrosinase using yeast surface display libraries
Inbal Rush¹, Romain Haudecoeur², Ayelet Fishman¹
¹*Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*
²*Département de Pharmacochimie Moléculaire, Univ. Grenoble-Alpes, Grenoble, France*
- P-29** Glucose-Functionalized Liposomes for Reducing False Positives in Cancer Diagnosis
Chen Tzror-Azankot¹, Oshra Betzer¹, Tamar Sadan¹, Menachem Motiei¹, Rachela Popovtzer¹
Faculty of Engineering and the Institute of Nanotechnology and Advanced Materials, Bar-Ilan University, Ramat Gan, Israel
- P-30** An Engineered Nanocomplex with Photodynamic and Photothermal Synergistic Properties for Cancer Treatment
Eli Varon^{1,2}, Gaddi Blumerson^{1,2}, Moshe Sinvani^{1,2}, Elina Haimov^{1,2}, Shlomi Polani^{2,3}, Michal Natan^{1,2}, Irit Shoval⁴, Avi Jacob⁴, Ayelet Atkins², David Zitoun^{2,3}, Orit Shefi^{1,2,5}
¹*Faculty of Engineering, Bar Ilan University, Ramat Gan, Israel*
²*Bar-Ilan Institute of Nanotechnology and Advanced Materials, Bar Ilan University, Ramat Gan, Israel*
³*Department of Chemistry, Bar Ilan University, Ramat Gan, Israel*
⁴*Faculty of Life Sciences, Bar Ilan University, Ramat Gan, Israel*
⁵*The Gonda Multidisciplinary Brain Research Center, Bar Ilan University, Ramat Gan, Israel*
- P-31** The antimicrobial activity of Cu-Polysaccharide complexes from red microalgae
Nofar Yehuda¹, Levi Gheber^{1,2}, Ariel Kushmaro^{1,2}, Shoshana (Mails) Arad¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
²*The Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

- P-32** Enrichment and Detection of Circulating Tumor Cells for Early Diagnosis of Pancreatic Cancer
Lisa Dahan¹, Alva Gilboa¹, Ester Segal^{1,2}
¹*Department of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*
²*The Russel Berrie Nanotechnology Institute of Technology, Technion - Israel Institute of Technology, Haifa, Israel*
- P-33** The correlation between the structure of fat particles in milk and its chemical composition
Ariel Cohen^{1,2}, Uri Raviv²
¹*Department of Materials Engineering, Azrieli College of Engineering, Jerusalem, Jerusalem, Israel*
²*Department of Physical Chemistry, Hebrew University of Jerusalem, Jerusalem, Israel*
- P-34** Dissolvable microneedles for treating atopic dermatitis
Noa Ben David¹, Adi Gross¹, Yuval Ramot², Boaz Mizrahi¹
¹*The department of biotechnology and food engineering, Technion, Haifa, Israel, Israel*
²*The department of dermatology, Hadassah-Hebrew University Medical Center, Jerusalem, Israel, Israel*
- P-35** Aggressiveness of 4T1 breast cancer cells hampered by Wnt production-2 inhibitor nanoparticles: An in vitro study
Noa Ben Ghedalia-Peled¹, Ifat Cohen-Erez¹, Hanna Rapaport^{1,2}, Razi Vago¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
²*Ilse Katz Institute for Nanoscale Science and Technology (IKI), Ben-Gurion University of the Negev, Beer Sheva, Israel*
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Noa Ben Ghedalia-Peled¹, Livnat Barsky¹, Katya Amar¹, Sagit Golko-Perez¹, Ifat Cohen-Erez¹, Hanna Rapaport^{1,2}, Levi A. Gheber¹, Razi Vago¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
²*Ilse Katz Institute for Nanoscale Science and Technology (IKI), Ben-Gurion University of the Negev, Beer Sheva, Israel*
- P-37** Aggressiveness of 4T1 breast cancer cells hampered by Wnt production-2 inhibitor nanoparticles: An in vitro study
Noa Ben Ghedalia-Peled¹, Ifat Cohen-Erez¹, Hanna Rapaport^{1,2}, Razi Vago¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
²*Ilse Katz Institute for Nanoscale Science and Technology (IKI), Ben-Gurion University of the Negev, Beer Sheva, Israel*
- P-38** Evolution of Natural Silk Materials
Ori Brookstein¹, Eyal Shimoni², Dror Eliaz¹, Ulyana Shimanovich¹
¹*Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel*
²*Department of Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel*
- P-39** Modulation of Natural Silk Materials with Metal Ions
Ori Brookstein¹, Eyal Shimoni², Ifat Kaplan-Ashiri², Dror Eliaz¹, Ulyana Shimanovich¹
¹*Molecular Chemistry and Materials Science, Weizmann Institute of Science, Rehovot, Israel*
²*Department of Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel*

- P-40** Novel 3D-bioprinted matrix incorporated with Q-starch/PIP3 complexes for wound healing
Yossi Blitsman¹, Noa Yamin², Riki Goldbart¹, Tamar Traitel¹, Galit Katarivas Levy², Joseph Kost¹
¹*Chemical Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel*
²*Biomedical Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel*
- P-41** Design of bio-ink containing endothelial cell-seeded microcarriers for three-dimensional bioprinting of microvasculature
Saray Chen^{1,2}, Smadar Cohen^{1,2}
¹*The Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer Sheva, Israel*
²*Regenerative Medicine and Stem Cell (RMSC) Research Center, Ben-Gurion University of the Negev, Beer Sheva, Israel*
- P-42** Hierarchically ordered macroscopic spheres of alginate decorated by amphiphilic and cationic peptides for cell culture applications
Dor Dvorkin¹, Gal Yosefi², Levi Gheber^{1,3}, Ronit Bitton^{2,3}, Hanna Rapaport^{1,3}
¹*Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel*
²*Chemical Engineering, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel*
³*Ilse Katz Institute for Nanoscience and Technology, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel*
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Tzadok Baruchi¹, Alon Ben David¹, Hanan Tzadok¹, Noa Cohen¹, Meni Girshengorn¹, Ophir Hazan¹, Irit Simon¹, Orian Zilberman¹, Niva Natan¹, Noam Cohen¹, Eyal Epstein²
¹*Biotechnology, Israel Institute for Biological Research, Ness Ziona, Israel*
²*Biotechnology, IIBR, NESS Ziona, Israel*
- P-44** Establishing Pn production timeline after myocardial infarction
Hadas Gil¹, Matan Goldshtein¹, Yoram Etzion^{2,3}, Uzi Hadad, Uzi Hadad⁴, Sharon Etzion², Smadar Cohen^{1,2,4}
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beersheva, Israel*
²*Regenerative Medicine and Stem Cell (RMSC) Research Center, Ben-Gurion University of the Negev, Beersheva, Israel*
³*Department of Physiology and Cell Biology, Ben-Gurion University of the Negev, Beersheva, Israel*
⁴*The Ilse Katz Institute for Nanoscale Science and Technology, Ben Gurion University of the Negev, Beersheva, Israel*
- P-45** Novel analgesic drug eluting soy protein films as wound dressings: an *in vivo* and *in vitro* study
Daniella Goder¹, Dana Egozi², Michael Harlev³, Shir Giladi¹, Ariel Furer⁴, Meital Zilberman^{1,5}
¹*Department of Materials Science and Engineering, Tel Aviv University, Tel Aviv, Israel*
²*Department of Plastic and Reconstructive Surgery, Kaplan Medical Center, Rehovot, Israel*
³*Veterinary Service Center, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel*
⁴*Medical Corps, Israel Defense Forces, ., Israel*
⁵*Department of Biomedical Engineering, Tel Aviv University, Tel Aviv, Israel*
- P-46** Automated discovery of ultra-stabilizers for self-assembled nanoparticles via drug aggregation induced emission
Yuval Harris¹, Hagit Sason-Bauer¹, Danna Niezni¹, Yosi Shamay¹
Biomedical Engineering, The Technion, Haifa, Israel
- P-47** *In vivo* production of copper-polysaccharide complexes in red microalgae
Orel Morgan¹, Nofar Yehuda¹, Shoshana (Malis) Arad¹
Biotechnology Engineering, Ben-Gurion University of the Negev, Be'er Sheva, Israel

- P-48** Seaweed Cellulose Scaffolds Derived from Green Macroalgae for Tissue Engineering
Bar-Shai Nurit¹
Porter School of Environment and Earth Sciences, Tel Aviv University, Tel Aviv, Israel
- P-49** Preparation and characterization of covalently bonded alginate-pyrrole as bioink for an extrusion-based 3D printing
Abraham Paul¹, Robert Marks^{1,2}
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
²*The Ilse Katz Center for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Beer-Sheva, Israel*
- P-50** Live tracking of iPSCs-derived human senescent cells using gene editing
Tal Shahar¹, Tal Shahar^{1,2}
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Be'er Sheva, Israel*
²*Regenerative Medicine and Stem Cell (RMSC) Research Center, Ben-Gurion University of the Negev, Be'er Sheva, Hadarom, Israel*
- P-51** **New formulations for delayed and extended release of nicotine in the distal intestine**
Rawan Aodeh¹, Tali Tavor-Reem¹, Adel Penhasi^{1,2}, Deborah Shalev^{1,3}
¹*Department of Pharmaceutical Engineering, Azrieli College of Engineering Jerusalem, Jerusalem, Select State/province, Israel*
²*Department of Research and Development, Polycaps Ltd., Tel Aviv, Israel*
³*Wolfson Centre for Applied Structural Biology, Hebrew University of Jerusalem, Jerusalem, Select State, Israel*
- P-52** Pancreatic ECM-based microencapsulation as an insulin delivery system for diabetes therapy
Michal Skitel-Moshe¹, Marcelle Machluf¹
Department of Biotechnology and Food Engineering, Technion, Haifa, Israel
- P-53** Revealing the effect of hydration on collagen structure, mechanical and electrical properties: Relevance for tissue engineering
Inna Solomonov¹, Manu Unni¹, Gregory Leitus², Irit Goldian², Irit Sagi¹
¹*Department of Immunology and Regenerative Biology, Weizmann Institute of Science, Rehovot, Israel*
²*Department of Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel*
- P-54** A 3D model for embryo implantation and the investigation of possible treatments to improve implantation
Liora Catane², Reuven Reich², Tali Tavor Re'em¹
¹*Department of Pharmaceutical Engineering, Azrieli college of Engineering, Jerusalem, Jerusalem, Israel, Israel*
²*Institute of Drug Research, School of Pharmacy, The Hebrew University of Jerusalem, Jerusalem, Israel*
- P-55** Tannic acid-enriched alginate-based hydrogel for antibacterial activity
Aharon Baskin¹, Pnina Livshitz¹, Tamar Gilon¹, Tali Tavor Re'em¹
Department of Pharmaceutical Engineering, Azrieli college of Engineering, Jerusalem, Jerusalem, Israel, Israel

- P-56** Revealing the effect of hydration on collagen structure, mechanical and electrical properties: Relevance for tissue engineering
Manu Unni, Manu Unni¹, Inna Solomonov¹, Gregory Leitus², Irit Goldian², Irit Sagi¹
¹*Department of Immunology and Regenerative Biology, Weizmann Institute of Science, Rehovot, Israel*
²*Department of Chemical Research Support, Weizmann Institute of Science, Rehovot, Israel*
- P-57** Cationic and amphiphilic peptide assemblies combined with gelatin into hybrid hydrogels for tissue culture
Shir Rina Weizman¹, Hanna Rapaport^{1,2}
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel*
²*Ilse Katz Institute for Nanoscience and Technology, Ben Gurion University of the Negev, Beer Sheva, Israel*
- P-58** Development of personalized skin regenerative therapy based on porcine skin ECM
Yehonatan Zur¹, Marcelle Machluf¹
Biotechnology and Food Engineering, Technion, Haifa, Israel
- P-59** Migrating and Proliferating Studies of Mesenchymal Stem Cells using Machine-Learning processing of Phase-Contrast images
Nambi Natchiyar Balakrishnan, Nambi Natchiyar Balakrishnan¹, Levi A Gheber¹
Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Beer-sheva, south , Israel
- P-60** From STOP Codon Mutations to Mechanism: Recognizing the Cellular Machinery of Protein Variants Related to Neurodevelopmental Diseases.
Shula Shazman^{1,2}, Illana Gozes³
¹*Mathematics and Computer science, The Open University of Israel, Raanana, Israel*
²*Information Systems Department, The Max Stern Yezreel Valley College, Yezreel Valley, Israel*
³*Elton Laboratory for Molecular Neuroendocrinology, Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Adams Super Center for Brain Studies and Sagol School of Neuroscience., Tel Aviv University, Tel Aviv, Israel*
- P-61** Effect of solubilizing group on the antibacterial activity of heptamethine cyanine photosensitizers
Melad Atrash¹, Olga Semenova¹, Iryna Hovor¹, Dmytro Kobzev¹, Faina Nakonechny¹, Gary Gellerman¹, Marina Nisnevitch¹, Leonid Patsenker¹
Chemical Engineering, Ariel University, Ariel, Shomron, Israel
- P-62** An engineered lactate dehydrogenase with direct electron transfer to an electrode for lactate biosensing.
Anastasya Boyarski¹, Lital Alfonta^{1,2}
¹*Department of Chemistry, Ben-Gurion University of Negev, Beer-Sheva, Select, Israel*
²*Department of Life Sciences, Ben-Gurion University of Negev, Beer-Sheva, Israel*
- P-63** Development of protein interaction immune modulators through bacterial split enzyme screening of calcineurin-NFAT interaction
Matan Gabay¹
The Goldschleger School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

- P-64** Developing and Optimizing a System for Expression of Recombinant Human Serine Protease 23
Stefan Ilic¹, Evette Radisky², Niv Papo¹
¹*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering and the National Institute of Biotechnology in the Negev, Ben-Gurion University, Be'er Sheva, N/a, Israel*
²*Department of Cancer Biology, Mayo Clinic Comprehensive Cancer Center, Jacksonville, Florida, USA*
- P-65** EF-Tu evolution for unnatural amino acid incorporation
Ofri Merromy¹, Miriam Amiram¹
Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel
- P-66** Combined therapeutic targeting of the KLK/MMP9 axis as a novel therapy for metastatic cancer.
Yuval Pinkert¹, Niv Papo¹
Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel
- P-67** Developing dual VEGF/PDL1 inhibitor based high-affinity scFvs as a therapeutic strategy
Noam Tzuri¹, Ksenia M Yegodayev³, Moshe Elkabets³, Amir Aharoni², Niv Papo¹
¹*Department of Biotechnology Engineering, Ben Gurion University, Beer- Sheva, Israel*
²*Department of Life Sciences, Ben Gurion University, Beer- Sheva, Israel*
³*Department of Microbiology, Immunology and Genetics, Ben Gurion University, Beer- Sheva, Israel*
- P-68** Protein engineering of L-lactate dehydrogenase to alternate cofactor specificity towards 1,6-NADH
Hanfeng Cai¹, Smadar Shulami¹, Omer Yehezkeli¹, Ayelet Fishman¹
Biotechnology and Food Engineering, Technion-Israel Institute of Technology, Haifa, Israel
- P-69** Bioprocess optimization for the production of Acetylcholinesterase-Fc (AChE-Fc), a chimeric therapeutic protein, using Ambr®15 min-vessel system
Hanan Tzadok¹, Ophir Hazan¹, Irit Simon¹, Arnon Tal¹, Meni Girshengorn¹, Ron Alcalay², Noa Cohen¹, Efi Makdasi², Ohad Mazor², Eyal Epstein¹, Noam Cohen¹
¹*Biotechnology, Israel Institute for Biological Research, Ness-Ziona, Israel*
²*Biochemistry and Molecular Genetics, Israel Institute for Biological Research, Ness-Ziona, Israel*
- P-70** Yeast fermentation for producing rapeseed (canola) proteins
Paz Shemesh¹, Smadar Shulami¹, Ayelet Fishman¹
Biotechnology & Food Engineering, Technion-Israel Institute of Technology, Haifa, Israel
- P-71** Polyethylene Terephthalate (PET) Biodegradation
May Avital¹, Ariel Kushmaro¹
Biotechnology Engineering, Ben Gurion University, Beer Sheva, Israel
- P-72** Development of Efficient Process of Biodiesel Production from oils and Fatty Wastes
Gilbert Azwat¹, Milad Atrash¹, El-Or Sharoni¹, Karen Molina¹, Faina Nakonechny¹, Marina Nisnevitch¹
Chemical Engineering, Ariel University, Ariel, Israel

- P-73** Culture-independent metagenomic approach for microbial community characterization in an industrial wastewater treatment system during crash and recovery periods.
Hana Barak¹, Asher Brenner¹, Alex Sivan², Ariel Kushmaro²
¹*Unit of Environmental Engineering, Ben Gurion University, Beer Sheva, Please Select, Israel*
²*Department of Biotechnology Engineering, Ben Gurion University, Beer Sheva, Please Select, Israel*
- P-74** Plasma Electrolytic Oxidation as an environmentally friendly corrosion protection method for valve metals
Barbara Kazanski¹
Materials Engineering, Azrieli College of Engineering Jerusalem, Jerusalem, Israel
- P-75** Towards one-pot consolidated bio-processing of cellulose to biodiesel at cellulose-coated oil in water emulsions as micro-reactors
Ester Korkus Hamal¹, Gilad Alfassi², Dmitry Rein¹, Yachin Cohen¹
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- P-76** Developing Activated Carbon for Water Treatment From Organic Waste
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- P-77** Examination of different compositions of polymers and sawdust to identify the optimal compound suitable for manufacturing of biodegradable agriculture products
Ilana Ofir¹, Michael Mizrahi¹
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- P-78** Seed`s watermelon waste as a promising feedstock for renewable energy (bioethanol) and lycopene
Maya Maliniak¹, Prof. Yoram Gerchman²
¹*Department of Evolutionary and Environmental Biology, Haifa University, Kiryat Tivon, Israel, Israel*
²*Science, Oranim Academic College, Kiryat Tivon, Israel, Israel*
- P-79** Aerobic Biodegradation of Chlorinated Ethenes in Groundwater
Rita Mejubovsky-Mikhelis¹, Johannes Ho³, Anna Willmann³, Andreas Tiehm³, Asher Brenner¹, Ariel Kushmaro²
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²*Biotechnology Engineering, Ben Gurion, Beer Sheva, Israel*
³*Microbiology and Molecular Biology, DVGW- Technologiezentrum Wasser, Karlsruhe, Germany*
- P-80** Development of biodiesel production from oils and fats
El-or Sharoni¹, Gilbert Azwat¹, Melad Atrash¹, Yael Elbo¹, Faina Nakonechny¹, Marina Nisnevitch¹
Department of Chemical Engineering, Ariel University, Ariel, Israel
- P-81** Conversion of Cellulose Biomass into electrical power using Cellulase enzymes in a photo-bio-electrochemical cell
Mor Shemesh¹, Nidda Herzallh¹, Yifat Cohen¹, Yuval Shoham¹, Omer Yehezkeli¹
Biotechnology and Food Engineering, Technion, Haifa, Israel
- P-82** Toxicity monitoring in water using whole cell bioreporters
Calin Trif¹, Robert Marks¹
Biotechnology, Ben-Gurion University of the Negev, Beer-Sheva, Israel

- P-83** Smart and eco-friendly plant protection by nanoencapsulated essential oils
Hanan Abu-Hamad¹, Sandeep Sharma¹, Michal Leshem¹, Naama Massad Ivanir¹, Ester Segal¹
Biotechnology and Food Engineering, Technion—Israel Institute of Technology, Haifa, Israel
- P-84** Design of bispecific CTLA4-IL10 chimera protein as the basis for inflammatory bowel diseases therapy
Adi Cohen¹, Gal Hirsch¹, Michal Schwartz³, Marina Sova¹, Karin Smorodinsky-Atias², Rotem Rubinstein², Itamar Yadid³, Maayan Gal¹
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²*Department of Biochemistry & Molecular Biology, Tel Aviv University, Tel Aviv, Israel*
³*Galilee Research Institute (Migal), Tel-Hai Academic College, Upper Galilee, Israel*
- P-85** Reduce food losses by developing non-destructive biosensors for real-time rots detection in the stored agriculture produce
Evgeni Eltzov¹
Postharvest Science, Agricultural Research Organization - the Volcani Institute, Rishon Lezion, Israel
- P-86** Profiling cellular immune response to understand triggers in the development of myeloma from early to late stages
Suchita Jadhav¹, Michael A Firer^{1,2,3}
¹*Chemical Engineering, Ariel University, Ariel, Ariel, Israel*
²*Adelson School of Medicine, Ariel University, Ariel, Ariel, Israel*
³*Ariel University, Ariel Center for Applied Cancer Research, Ariel, Ariel, Israel*
- P-87** *Mycobacteriaceae* mineralizes micro-polyethylene (mPE) in a riverine ecosystem.
Max Kolton^{1,2,3}, Xiaoxu Sun^{2,3}, Weimin Sun^{2,3}
¹*French Associates Institute for Agriculture and Biotechnology of Drylands, Ben-Gurion University of the Negev, Beer Sheva, Israel*
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³*Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, China*
- P-88** Developing a diagnostic Point-of-Care testing for thyroid carcinoma
Kathelina Kristollari¹, Sagi Angel¹, Uri Yoel^{3,4}, Robert Marks^{1,2}
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³*Department of Clinical Biochemistry and Pharmacology, Ben Gurion University of the Negev, Be'er Sheva, Israel*
⁴*Endocrinology Unit, Soroka University Medical Center, Be'er Sheva, Israel*
- P-89** Whole genome sequencing and characterization of the newly isolated cyanobacteria *Trichocoleus Desertorum Negevi* from Negev Desert rocks (petroglyphs)
Irit Nir¹, Hana Barak², Laura Rabbachin⁴, Dafna Shpatz¹, Arielle Kahn¹, Mariela Pavan³, Esti Kramarsky-Winter¹, Guadalupe Pinar⁴, Katja Streflinger⁴, Ariel Kushmaro^{1,3}
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- P-90** A novel Mucin-selective protease StcE is a powerful tool for heavily O-glycosylated mucin proteins MS analysis
Ena Orzech¹, Daniel Taglicht¹
Protein Expression & Purification, R&d, Merck, Jerusalem, Israel
- P-91** Developing a method for prediction of affinities for single and double protein mutants to different targets with similar structures.
Oz Reuveni¹
Faculty of Engineering Sciences, Avram & Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel
- P-92** Generating N-TINP2 with multiple mutations for enhanced affinity to MMP9
Gili Shapira¹, Niv Papo¹
Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben Gurion University of the Negev, Beer Sheva, Israel
- P-93** CRISPR/Cas9 as a tool for gene editing in red microalgae
Yarden Sorek
 Biotechnology Engineering, Ben Gurion University of the Negev, Beer-Sheva, Israel
- P-94** Antiviral Activity of Polysaccharide from the Red Microalgal *Porphyridium* sp.
Roni Sussman¹, Shosh (Malis) Arad¹, Ariel Kushmaro^{1,2}, Michal Mandelboim³, Nofar Atari³, Avishai Lublin⁴
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⁴*Department of Avian Diseases,, Kimron Veterinary Institute,, Beit Dagan, Israel*
- P-95** Scale-up of L-DOPA production process by recombinant Tyrosinase
Tamar Gilon¹, Ronit Mahari¹, Tali Tavor Re'em¹
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- P-96** Producing L-Dopa by genetically engineered tyrosinase
Tamar Gilon¹, Eli Yadgaran¹, Eliana Rahamimov¹
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- P-97** Stable protein 1 hemin complex as peroxidase mimicking artificial enzyme
Yara Zeibaq¹, Oren Bachar¹, Omer Yehezkeli¹
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- P-98** Mapping the affinity of protein-protein interactions with multiple amino acid mutations using deep neural networks
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