



The 1<sup>st</sup> Meeting of the  
Young Israeli Chapter  
of the Controlled Release Society

February 4<sup>th</sup>, 2016 at Tel Aviv University

**08:20-09:00 Registration, Morning Coffee & Mingling**

**09:00-09:20 Opening session**

09:00 **Assaf Zinger** - Organizing Committee, Technion-Israel Institute of Technology

09:10 **Prof. Dan Peer**- ICRS President, Tel-Aviv University

**09:20-10:00 Plenary Lecture**

**TURNING CONTROLLED RELEASE TECHNOLOGY INTO PRODUCTS: THE STORY OF SOL-GEL**

**Dr. Alon Seri-Levy**- CEO, Sol-Gel Technologies

**10:00-11:00 Session A: RNA/ DNA Delivery Systems & Imaging**

10:00 **BIO-INSPIRED ANIONIC NANOPARTICLES FOR DELIVERY OF PLASMID DNA**

**Stav Shamir**, Efrat Forti, Matan Goldstein, Smadar Cohen

*Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

10:10 **TARGETING PANCREATIC DUCTAL ADENOCARCINOMA WITH A POLYMERIC NANOCARRIER AND AN ANTICANCER MICRORNA POLYPLEX**

**Hadas Gibori**, Shay Eliyahu, Adva Krivitsky and Ronit Satchi-Fainaro

*Department of Physiology and Pharmacology, Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Israel*

10:20 **SYSTEMIC GENE SILENCING IN PRIMARY T LYMPHOCYTES USING TARGETED LIPID NANOPARTICLES**

**Ranit Kedmi**<sup>1,2,3\*</sup>, Srinivas Ramishetti<sup>1,2,3\*</sup>, Meir Goldsmith<sup>1,2,3</sup>, Fransisca Leonard<sup>4</sup>, Andrew G. Sprague<sup>5</sup>, Biana Godin<sup>4</sup>, Michael Gozin<sup>2</sup>, Pieter R. Cullis<sup>6</sup>, Derek M. Dykxhoorn<sup>7</sup>, Dan Peer<sup>1,2</sup>

*<sup>1</sup>Laboratory of NanoMedicine, Department of Cell Research and Immunology, George S. Wise Faculty of Life Sciences, <sup>2</sup>Department of Materials Sciences and Engineering, Faculty of Engineering, <sup>3</sup>Center for Nanoscience and Nanotechnology, and <sup>2</sup>School of Chemistry, Tel-Aviv University, Tel Aviv, Israel, <sup>4</sup>Department of NanoMedicine, Houston Methodist Research Institute, Houston, Texas, United States, <sup>5</sup>Alnylam Pharmaceuticals, Cambridge, Massachusetts, United States, <sup>6</sup>Department of Biochemistry & Molecular Biology, Life Science Centre, University of British Columbia, Vancouver, Canada, <sup>7</sup>Dr. John T Macdonald Foundation, Department of Human Genetics, Hussman Institute for Human Genomics, University of Miami, Miller School of Medicine, Miami, Florida, United States*

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10:30     **SIRNA DELIVERY PLATFORM BASED ON CO-ASSEMBLING ANIONIC NANOPARTICLES OF SIRNA AND HYALURONAN SULFATE VIA CALCIUM BRIDGES**  
**Efrat Forti**<sup>1</sup>, Olga Kryukov<sup>1</sup>, Edan Elovic<sup>1</sup>, Matan Goldstein<sup>1</sup>, Efrat Korin<sup>1</sup>, Gal Margolis<sup>1</sup>, Felder Shani<sup>1</sup>, Emil Ruvinov<sup>1</sup>, Smadar Cohen<sup>1-3</sup>  
*<sup>1</sup>Avram and Stella Goldstein-Goren Department of Biotechnology Engineering, <sup>2</sup>Regenerative Medicine and Stem Cell (RMSC) Research Center, <sup>3</sup>The Ilse Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

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10:40     **INVESTIGATING THE DISTRIBUTION OF MODIFIED NANO-GHOSTS FOR CANCER THERAPY AND USING FLUORESCENT DYES FOR THEIR LOCALIZATION**  
**Hagit Shalom**, Yael Iupu, Marcelle Machluf  
*Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*

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10:50     **SPECTRALLY ACTIVE MICELLAR NANOCARRIERS**  
**Marina Buzhor**, Roey J. Amir  
*Department of Organic Chemistry, School of Chemistry, Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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**11:00-11:30    Coffee Break**

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**11:30-12:40    Session B: Controlled Delivery Systems & Tissue Engineering**

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11:30     **DUAL STIMULI-RESPONSIVE POLYMERIC MICELLES AS A MODULAR PLATFORM FOR CONTROLLED DELIVERY**  
**Gadi Slor**, Assaf Harnoy, Roey Amir  
*School of Chemistry, Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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11:40     **INCORPORATION OF PENETRATION ENHANCERS INTO INTRA-TUMORAL BIODEGRADABLE POLYMERIC IMPLANTS AND THEIR EFFECT ON ANTICANCER DRUG DISPOSITION**  
**Hen Popilski**, David Stepensky  
*Department of Clinical Biochemistry and Pharmacology, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva, Israel*

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11:50     **NANOSTRUCTURED POROUS SILICON FOR DELIVERY OF NERVE GROWTH FACTOR**  
**Michal Rosenberg**<sup>\*1</sup>, Neta Zilony<sup>\*2</sup>, Liran Holtzman<sup>1</sup>, Orit Shefi<sup>2</sup> and Ester Segal<sup>1</sup>  
*<sup>1</sup> Department of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel, <sup>2</sup> Faculty of Engineering, Bar-Ilan University, Ramat-Gan, Israel. \*Equal contribution*

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12:00     **ENGINEERED FREE-STANDING CARDIAC PATCHES WITH BUILT-IN ELECTRONICS FOR ON-LINE MONITORING AND REGULATION OF TISSUE FUNCTION**  
**Ron Feiner**<sup>1,2</sup>, Leeya Engel<sup>2,3</sup>, Sharon Fleischer<sup>1,2</sup>, Maayan Malki<sup>1,3</sup>, Assaf Shapira<sup>1</sup>, Yosi Shacham-Diamand<sup>4</sup>, Tal Dvir<sup>\*,1,2,3</sup>  
*<sup>1</sup> The laboratory for tissue engineering and regenerative medicine, Department of Molecular Microbiology and Biotechnology, George S. Wise Faculty of Life Science, Tel-Aviv University, Tel-Aviv, Israel, <sup>2</sup> The Center for Nanoscience and Nanotechnology, Tel-Aviv University, Tel-Aviv, Israel, <sup>3</sup> Department of Materials Science and Engineering, Tel-Aviv University, Tel-Aviv, Israel, <sup>4</sup> Department of Physical Electronics, Faculty of Engineering, Tel-Aviv University, Tel-Aviv, Israel*

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12:10     **DESIGNING A BIOCOMPATIBLE HYDROGEL FOR THE DELIVERY OF MESALAMINE**  
**Lena Neufeld**, Havazelet Bianco-Peled  
*Faculty of Chemical Engineering, Technion-Israel Institute of Technology, Haifa, Israel*

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12:20     **GELATIN-ALGINATE SURGICAL SEALANT LOADED WITH HEMOSTATIC AGENTS**  
**Oded Pinkas**<sup>1</sup>, Meital Zilberman<sup>1</sup>  
<sup>1</sup> *Department of Materials Science and Engineering, Faculty of Engineering, Tel-Aviv University, Tel-Aviv, Israel*

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12:30     **EXTRACELLULAR MATRIX- BASED GELS FOR MYOCARDIAL INFARCTION TREATMENT**  
**Yael Efraim**, Hadar Sarig, Marcelle Machluf  
*Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*

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**12:40-14:00     Lunch Break**

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**14:00-14:40     Plenary Lecture**

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**FROM A CONCEPT IDEA TO A NOVEL CLINICAL MODALITY**

**Prof. Dan Peer**- ICRS President, Tel-Aviv University

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**14:40-15:30     Session C: Nanoparticulated Delivery Systems**

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14:40     **DEVELOPING CELL-DERIVED NANO-VESICLES AS A DRUG DELIVERY VEHICLE FOR LIPOPHILIC DRUGS**  
**Alexandra Ereskovsky**, Tomer Bronshtein, Marcelle Machluf  
*Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*

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14:50     **NEW APPLICATIONS OF ORGANIC NANOPARTICLES: VECTORISATION OF MIX THROUGH THE SKIN AND DEVELOPMENT OF IN VITRO ASSAY FOR THE DIAGNOSIS OF FRAGRANCE ALLERGY**  
**A. Cortial**<sup>2</sup>, M. Vocanson<sup>2</sup>, J.F. Nicolas<sup>2</sup>, S. Briancon<sup>1</sup>  
<sup>1</sup>*Laboratoire d'Automatique et de Génie des Procédés, Université Lyon1, Lyon, France; CIRI, Centre International de Recherche en Infectiologie, Université de Lyon, Lyon, France; Inserm, Lyon, France; Ecole Normale Supérieure de Lyon, Lyon, France; Université Lyon;* <sup>2</sup>*Centre International de Recherche en Infectiologie, Lyon, France; CNRS, Lyon, France.*

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15:00     **DESIGN AND CHARACTERIZATION OF NANOPARTICLES LOADED WITH A LIPOPHILIC PT(IV) PRODRUG FOR THE DELIVERY OF OXALIPLATIN IN SOLID TUMORS**  
**Aiman Abu Ammar**, Raji Raveendran, Taher Nassar, Dan Gibson, Simon Benita  
*Institute for Drug Research of the School of Pharmacy, Faculty of Medicine, The Hebrew University of Jerusalem, Jerusalem, Israel*

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15:10     **ENZYME-RESPONSIVE POLYMERIC MICELLES AS A PLATFORM FOR CONTROLLED DELIVERY**  
**Assaf J. Harnoy**, Ido Rosenbaum, Roey J. Amir  
*School of Chemistry, Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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15:20     **ENCAPSULATION OF GLUCOCORTICOIDS IN CELL DERIVED NANO-GHOSTS**  
**Tom Givaty**, Marcelle Machluf  
*Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Haifa, Israel*

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**15:30-16:00   Coffee Break**

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**16:00-17:00   Session D: Targeted Delivery Systems**

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16:00     **INTRACELLULAR ACTIVATION AND ENHANCED CYTOTOXICITY OF PEGYLATED LIPOSOMAL MITOMYCIN-C PRODRUG TARGETED TO THE FOLATE RECEPTOR OF CANCER CELLS**  
**Yogita Patil**<sup>1</sup>, Yasmine Amitay<sup>3</sup>, Patricia Ohana<sup>3</sup>, Hilary Shmeeda<sup>2</sup>, Alberto Gabizon<sup>1, 2, 3</sup>  
*<sup>1</sup>Hebrew University-School of Medicine, <sup>2</sup>Oncology Institute at Shaare Zedek Medical Center, <sup>3</sup>Lipomedix Pharmaceuticals Ltd., Jerusalem, Israel*

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16:10     **PROTEIN PRODUCING PARTICLES FOR ONSITE DRUG DELIVERY**  
**Nitzan Krinsky**<sup>1</sup>, Maya Kaduri<sup>1</sup>, Janna Shainsky-Roitman<sup>1</sup>, Mor Goldfeder<sup>1</sup>, Itai Benhar<sup>2</sup>, Avi Schroeder<sup>1</sup>  
*<sup>1</sup>Laboratory for Targeted Drug Delivery and Personalized Medicine Technologies, Department of Chemical Engineering, Technion, Haifa, Israel, <sup>2</sup>Department of Molecular Microbiology and Biotechnology, The Georg S. Wise Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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16:20     **NANO-GHOSTS FOR SELECTIVE DRUG DELIVERY TO AND ACROSS THE BLOOD BRAIN BARRIER**  
**Noa Cohen Anavy**, Marcelle Machluf  
*Faculty of Biotechnology and Food Engineering, Technion - Israel Institute of Technology, Israel*

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16:30     **A NOVEL TARGETED CYTOTOXIC TREATMENT BY RGD-MODIFIED PROTEIN IN CUTANEOUS MELANOMA**  
**Avraham Dayan**, Osnat Ashur-Fabian, Gideon Fleminger  
*The Department of Molecular Microbiology and Biotechnology, George S. Wise Faculty of Life Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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16:40     **TAGGING THE UNTAGGABLE: NEW OPENING FOR BIOCONJUGATION CHEMISTRY**  
**Samer Gnaim**, Anna Scomparin, Ronit Satchi-Fainaro, Doron Shabat  
*School of Chemistry, Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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16:50     **ENZYME-RESPONSIVE NANOCARRIERS WITH TUNABLE RELEASE RATES**  
**Merav Segal**, Roey J. Amir  
*School of Chemistry, Faculty of Exact Sciences, Tel-Aviv University, Tel-Aviv, Israel*

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**17:00-17:20   Closing Session**

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Best Presentation Awards  
Closing Remarks - Organizing Committee

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