



**THE 7TH ANNUAL MEETING OF THE ISRAELI
CHAPTER OF THE CONTROLLED RELEASE
SOCIETY (ICRS)**

**NEW TRENDS IN DRUG DELIVERY AND IN
CONTROLLED-RELEASE BASED CONSUMER
PRODUCTS**

October 3-4, 2010

Dan Carmel Hotel, Haifa



ORGANIZING COMMITTEE

Prof. Rosa Azhari - Chairperson
Ort Braude College

Dr. Ayelet David
Ben-Gurion University of the Negev

Prof. Joseph Kost
Ben-Gurion University of the Negev

Prof. Noah Lotan
Technion – Israel Institute of Technology

Prof. Rimona Margalit
Tel Aviv University

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האוניברסיטה העברית בירושלים - הפקולטה לרפואה
The Hebrew University of Jerusalem - Faculty of Medicine

School of Pharmacy
בית הספר לרוקחות

ORT BRAUDE COLLEGE



TRANSPHARMA MEDICAL





PROGRAM

Sunday, October 3, 2010

Monday, October 4, 2010

Sunday –October 3, 2010

- 8:30 - 9:00 **REGISTRATION AND POSTERS SETUP**
- 9:00 - 9:10 **Welcome**
Rosa Azhari, *ICRS President*
- 9:10- 9:55 **KEYNOTE PRESENTATION**
SMART AND DRUG-FREE MACROMOLECULAR THERAPEUTICS
Jindrich Kopecek
Department of Pharmaceutics and Pharmaceutical Chemistry, Department of Bioengineering, University of Utah, Salt Lake City, Utah, USA
- 10:00 - 12:50 **SESSION 1**
NOVEL ANTI-CANCER THERAPIES
Chairpersons: *Alberto Gabizon and Jindrich Kopecek*
- 10:00 – 10:25 **Delivery of Anticancer Agents in Liposomes: From Bench to Bedside**
Alberto Gabizon
Shaare Zedek Hospital and The Hebrew University of Jerusalem
- 10:25- 10:50 **Rational Design of Multifunctional Polymer Therapeutics for Cancer Theranostics**
Ronit Satchi-Fainaro
Department of Physiology-Pharmacology, Sackler School of Medicine, Tel Aviv University
- 10:50-11:10 **COFFEE BREAK**
- 11:10- 11:35 **Novel Polymer Conjugates for Cancer Detection and Therapy**
Ayelet David
Department of Pharmacology, Faculty of Health Sciences, Ben-Gurion University of the Negev
- 11:35- 12:00 **Intracellularly-Targeted Drug Delivery**
David Stepansky
Department of Pharmacology, Faculty of Health Sciences, Ben-Gurion University of the Negev
- 12:00- 12:30 **Short presentations of selected posters:**
Maria Popov, Delivery of analgesic peptides to the brain by nano-sized vesicles made of monolayered membranes
Alina Shapira, Beta-Casein micelles as oral nano-vehicles for chemotherapeutic drugs
Adi Tzur, Surface engineered porous silicon-based nanostructures for cancer therapy
Ektarina Perets, Controlled delivery system to elicit anti-cancer effects of HIV protease inhibitor Nelfinavir

Paula Ofek, In-vivo delivery of SIRNA to tumors and their vasculature by novel dendritic nanocarriers

Yosi Shamay, E-Selectin targeted polymer conjugates for the treatment of primary tumors and lung metastasis

12:30- 13:30 LUNCH FOR ALL PARTICIPANTS

**13:30- 14:15 KEYNOTE PRESENTATION
SUPRAMOLECULAR BIOCONJUGATES FOR DRUG
DELIVERY**

Paolo Caliceti

Department of Pharmaceutical Sciences, University of Padova, Padova, Italy

**14:15-15:30 SESSION 2
IMAGING, DIAGNOSTICS AND PRODUCT CHARACTERIZATION
IN ADVANCED DRUG THERAPIES**

Chairpersons: *Avri Rubimstein*

**14:15-14:40 Non-Invasive Cancer Imaging Using Near Infrared Fluorescent
Cathepsin Activity-Based Probes**

Galia Blum

Institute of Drug Research, Hebrew University of Jerusalem

14:40-15:05 Distinctive Chemical Approach for Real-Time Imaging of Drug Release

Doron Shabat

School of Chemistry, Tel Aviv University

**15:05-15:25 Advanced Cryo-Electron Microscopy in the Study of Nano-Aggregates
in Liquid and Semi-Liquid Systems**

Yeshayahu Talmon

**Faculty of Chemical Engineering, Technion-Israel Institute of Technology,
Haifa**

**15:25-15:45 Immunosensing Platforms for optical Detection of Cancer Biomarkers
in the Lumen of the GI Tract**

Elena Khazanov

**School of Pharmacy, Institute for Drug research, The Hebrew University of
Jerusalem**

15:45-15:55 Short presentations of selected posters:

*Arik Zur, Comparison between the pharmacokinetic properties of two non-
metabolic long chain fatty acid analogs for the therapy of
metabolic syndrome*

Avital haft, Reduction of chemical bonds by bacteria of the colon

15:55- 17:00 POSTER SESSION AND COFFEE

- 17:00-18:45 **SESSION 3**
BIOAVAILABILITY AND ORAL DELIVERY
 Chairpersons: *Amnon Hoffman and Paolo Caliceti*
- 17:00-17:25 **A Novel Trojan Nanocarrier Enhances Markedly the Oral Docetaxel Absorption via the Lymphatic Route**
Simon Benita
Institute for Drug Research, The Hebrew University of Jerusalem
- 17:25-17:50 **Characterization of the Intestinal Drug Absorption Mechanism for Optimizing Oral Delivery**
Amnon Hoffman
Institute for Drug Research, The Hebrew University of Jerusalem
- 17:50-18:15 **Starch Particles for Enhanced Bioavailability of Edible Bioactives**
Eyal Shimoni
Faculty of Biotechnology and Food Engineering, Technion, Haifa
- 18:15-18:40 **Gastro intestinal Tracking of Enterically Coated Capsules Using X-Ray Imaging**
Sigal Saphier
Department of Organic Chemistry, Israel Institute for Biological Research, Nes Ziona
- 20:30 **GALA DINNER**
- **Presentation of the ICRS Prize for Outstanding Achievements in Controlled Release to prof. Smadar Cohen**
 - **Presentation of the 2009 Best Student Poster Awards:**
 - First prize:**
Daniel Zucker, Cancer therapeutic efficacy of two drug combination co-remote loaded into nanoliposomes: relevance of in-vitro synergy, Hebrew University of Jerusalem. Advisor: Prof. Chezy Barenholz.
 - Second prize:**
Ehud Segal, RAFT- Synthesized nanoconjugates for targeting bone metastases and calcified neoplasms, Tel Aviv University. Advisor: Dr. Ronit Satchi-Fainaro.
 - Third prizes:**
Emil Rubinov, Affinity-binding alginate biomaterial for the controlled delivery of cardiovascular-protective factors, Ben-Gurion University of the Negev. Advisor: Prof. Smadar Cohen.
Eva Kopansky, Polymer conjugates for visualizing solid tumors in the GI tract, Ben-Gurion University of the Negev. Advisor: Dr. Ayelet David.
Lior Raviv Mannosylated block copolymer micelles for targeting genes into antigen-presenting cells, Ben-Gurion University of the Negev. Advisor: Dr. Ayelet David.
 - **Announcement of the 2010 Best Student Presentation Award Winners**
2010 Award sponsored by Professor Chezy Barenholz

Monday –October 4, 2010

- 8:00-8:30 **ADMINISTRATIVE SESSION: General Assembly of ICRS**
- 8:30 - 9:15 **KEYNOTE PRESENTATION**
TARGETING THE IMMUNE SYSTEM TO CANCER
Alexander Levitzki
Department of Biological Chemistry, The Alexander Silberman Institute of Life Sciences, The Hebrew University of Jerusalem
- 9:15-10:55 **SESSION 4**
ISSUES IN INFLAMMATION AND IMMUNOMODULATION
Chairpersons: *Rimona Margalit and Alexander Levitzki*
- 9:15-9:40 **Immuno-modulation by Nanoparticles in Cardiovascular Disorders**
Gershon Golomb
Department of Pharmaceutics, School of Pharmacy, The Hebrew University of Jerusalem
- 9:40-10:05 **RNAi Nanomedicines : Challenges and Opportunities within the Immune System**
Dan Peer
Department of Cell Research and Immunology, Faculty of Life Sciences, Tel Aviv University
- 10:05-10:30 **Novel Fibrillar Insulin Formulations for Oral Administration**
Yaron Dekel
Migal Institute, Kiryat Shmona
- 10:30-10:55 **Targeting Transferrin Receptor with PEGylated Nano-Immunoliposomes: a Potential Method for the Local Treatment of IBD via the Luminal Route**
Efrat Harel
Institute for Drug Research, The Hebrew University of Jerusalem
- 10: 55-11:15 **COFFEE BREAK**

- 11:15-13:30 SESSION 5**
DRUG DELIVERY : FROM RESEARCH TO COMMERCIAL PRODUCTS
 Chairpersons: *Joseph Kost and Chezy Barenholz*
- 11:15- 12:00 **KEYNOTE PRESENTATION**
A FRESH START(UP), THE LIFE CYCLE OF A START-UP - AN ENTREPRENEUR'S PERSPECTIVE, AN INVESTOR'S VIEW.
Avi Molcho
Venture Partner, Forbion Capital Partners; Founder, Biologic Design
- 12:00-12:25 **Patent Protection for Innovations in Controlled Release Drug Technology**
Joseph Wyse
Eyal Bressler & Co. Patent Attorneys
- 12:25-12:50 **Eliminating Needles: Therapeutic Delivery of Peptides and Oligonucleotides Through Skin**
Galit Levin
TransPharma Medical Ltd.
- 12:50-13:15 **Designing Long Acting Recombinant Proteins: From Bench to Clinics**
Fuad Fares
ModigeneTech and Faculty of Natural Sciences, Haifa University
- 13:15-13:30 **Short presentations of selected posters:**
- Ariel Gilert, Immunomodulation using PLGA delivery of short peptides to antigen presenting cells*
Aharon Azaguri, Effect of ultrasound and chemical penetration enhancers on transport phenomena of chorioamnion membrane
Yulia Sapir, Integration of multiple cell-matrix interactions into inert alginate scaffolds for cardiac tissue regeneration
- 13:30-14:30 **LUNCH FOR ALL PARTICIPANTS AND POSTER VIEWING**

- 14:30-16:55 **SESSION 6**
CONTROLLED RELEASE IN TISSUE REGENERATION
TECHNOLOGIES
 Chairpersons: *Smadar Cohen and Rosa Azhari*
- 14:30-14:55 **Local stimulations in 3D for Controlled Differentiation and Organization of Embryonic Stem Cells**
Shulamit Levenberg
Faculty of Biomedical Engineering, Technion- Israel Institute of Technology, Haifa
- 14:55-15:20 **Novel Antibiotic-Eluting Composite Structures for Wound Healing Applications: In-Vitro and In-Vivo Study**
Maital Zilberman
Biomedical Engineering Department, Tel-Aviv University
- 15:20-15:45 **Sequential, Multi-Component-Releasing Scaffolds for Tissue Engineering: Fabrication by the Novel Solvent/Non-Solvent Sintering Technology**
Sarit Sivan
Faculty of Biomedical Engineering, Technion- Israel Institute of Technology, Haifa
- 15:45-16:10 **Cells, Gels, Tissue, and Issues: Novel Hydrogels as Scaffolds Designed with Affinity-Based Drug Delivery**
Liat Oss-Ronen
Faculty of Biomedical Engineering, Technion- Israel Institute of Technology, Haifa
- 16:10-16:35 **Sequential Delivery of IGF-1 and HGF from Injectable Alginate Biomaterial Promotes Myocardial Repair after Myocardial Infarction**
Emil Rubinov
Department of Biotechnology Engineering, Ben-Gurion University of the Negev
- 16:35-16:55 **Bioactive Ceramic Scaffold Conjugated PLGA Particles for Bone Tissue Engineering**
Yael Lupu
Faculty of Biotechnology and Food Engineering, Technion- Israel Institute of Technology, Haifa
- 17:00 **Concluding remarks**
Rosa Azhari