

CURRENT RESEARCH TOPICS IN PHARMACY: *Drug Delivery*

February 28th, 2023 12.00 PM ISTANBUL

FOR REGISTRATION:



First Session- Moderator: Gülşah GEDİK 12.00-13.30 PM

Welcome- Prof. Oya Kerimoğlu
Marmara University, Istanbul, Türkiye

Core-shell type lipid-polymer hybrid nanocarriers as novel-generation drug delivery platform – Assoc. Prof. Ceyda Tuğba Şengel Türk
Ankara University, Ankara, Türkiye

Drug delivery systems used for biological products- Assist. Prof. Oğun Mehmet Saka
Ankara University, Ankara Türkiye

Viral delivery systems within the gene therapy landscape- Dr.Ceyda Ekenok Atıcı
Marmara University, Istanbul, Türkiye

Second Session – Moderator: Oğun Mehmet SAKA 14:00-15.30 PM

Nanobiomaterials for drug delivery- Assist. Prof. Gülşah Gedik
Trakya University, Edirne, Türkiye

Microneedles : A smart approach for intradermal and transdermal drug delivery systems-Assist.Prof.Ebru Altuntaş
Istanbul University, Istanbul, Türkiye

Nose-to-brain drug delivery of nanoformulations:Preparation and in vitro evaluation– Dr.Özge Gün Eşim
Ankara University, Ankara, Türkiye

Chair

Prof. Hatice Kübra ELÇİOĞLU

Vice Chairs

Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

ORGANIZING & SCIENTIFIC COMMITTEE

Editorial Board of Journal of Research in Pharmacy

<https://www.jresopharm.com/>

JRP

Journal of Research in Pharmacy

An international open-access journal of pharmacy and pharmaceutical sciences

Formerly published as Marmara Pharmaceutical Journal

ONLINE
SYMPOSIUM

CURRENT RESEARCH TOPICS IN PHARMACY: *Drug Delivery*

February 28th, 2023 12.00 PM ISTANBUL

FOR REGISTRATION:



Third Session- Moderator: Ceyda EKENTOK ATICI 16.00-18.30 PM

Microemulsion utility in pharmaceuticals: An overview and pharmaceutical applications- Assist.Prof.Emre Şefik Çağlar
University of Health Sciences, Istanbul, Türkiye

Journey of the saponin from the plant to the formulation for the blocking tumor activities – Dr.Burcu Üner
The University of Health Science and Pharmacy in St. Louis, MO, USA

Development of injectable ROS responsive nanoparticles with identified protein for improvement of the cardiac repair following myocardial infarction- Dr. Renuka Khatnik
Washington University in St.Louis, MO, USA

Groundbreaking delivery systems: Liposomes-microbubbles complexes - Dr. Pankaj Dwivedi
University of Health Sciences and Pharmacy in St. Louis, MO, USA

Breaking the barriers with cutting edge intradermal delivery towards pain-free skin therapy: Dissolvable microneedle devices for localized therapy – Dr.Monica Dwivedi
Birla Institute of Technology, Mesra, India

Chair

Prof. Hatice Kübra ELÇİOĞLU

Vice Chairs

Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

ORGANIZING & SCIENTIFIC COMMITTEE

Editorial Board of Journal of Research in Pharmacy

<https://www.irespharm.com/>

JRP

Journal of Research in Pharmacy

An international open-access journal of pharmacy and pharmaceutical sciences

Formerly published as Marmara Pharmaceutical Journal

**ONLINE
SYMPOSIUM**

CURRENT RESEARCH TOPICS IN PHARMACY:

Drug Delivery

February 28th, 2023 12.00 PM ISTANBUL

ORGANIZING & SCIENTIFIC COMMITTEE

Editorial Board of Journal of Research in Pharmacy

<https://www.jrespharm.com/>

Esra Tatar
(Vice Chair of Organizing Committee)
Marmara University, Istanbul, Türkiye

Levent Kabasakal
(Vice Chair of Organizing Committee)
Marmara University, Istanbul, Türkiye

Ayşe Nur Hazar Yavuz
(Secretary)
Marmara University, Istanbul, Türkiye

Abdikarim Mohammed Abdi
Yeditepe University, Istanbul, Türkiye

Afife Büşra Uğur Kaplan
Atatürk University, Erzurum, Türkiye

Ahmet Emir
Ege University, Izmir, Türkiye

Ali Demir Sezer
Marmara University, Istanbul, Türkiye

Ammad Ahmad Farooqi
Institute of Biomedical and Genetic Engineering (IBGE), Islamabad, Pakistan

Ana V. Pejić
University of Kragujevac, Kragujevac, Serbia

Anisa Elhamili
University of Tripoli, Tripoli, Libya

Annalisa Chivaroli
G. d'Annunzio University of Chieti-Pescara, Chieti, Italy

Antoaneta Trendafilova
Bulgarian Academy of Sciences, Sofia, Bulgaria

Ayfer Beceren
Marmara University, Istanbul, Türkiye

Ayşe Esra Karadağ
Istanbul Medipol University, Istanbul, Türkiye

Ayşenur Günaydın Akyıldız
Bezmiâlem Vakıf University, Istanbul, Türkiye

Bahadır Bülbül
Düzce University, Düzce, Türkiye

Betul Okuyan
Marmara University, Istanbul, Türkiye

Bezza Ecem Öz Bedir
Ankara Yıldırım Bayezit University, Ankara, Türkiye

Büşra Ertaş
Marmara University, Istanbul, Türkiye

Ceren Emir
Ege University, Izmir, Türkiye

Claudio Ferrante
G. d'Annunzio University of Chieti-Pescara, Chieti, Italy

Debora Dummer Meira
Federal University of Espirito Santo, Vitória-Espirito Santo, Brazil

Derya Özsaavcı
Marmara University, Istanbul, Türkiye

Dinesh Kumar
Indian Institute of Technology (IIT), Varanasi, India

Ebru Altuntaş
Istanbul University, Istanbul, Türkiye

Ela Hoti
University of Medicine, Tirana, Albania

Emine Terzi
Ankara Yıldırım Bayezit University, Ankara, Türkiye

Emirhan Nemutlu
Hacettepe University, Ankara, Türkiye

Emrah Özakar
Atatürk University, Erzurum, Türkiye

Enkelejda Goci
Aldent University, Tirana, Albania

Entela Haloci
University of Medicine, Tirana, Albania

Erkan Rayaman
Marmara University, Istanbul, Türkiye

Fatma Missoun
University of Mostaganem, Mostaganem, Algeria

Gizem Tatar Yılmaz
Karadeniz Technical University, Trabzon, Türkiye

Gülberk Uçar
Hacettepe University, Ankara, Türkiye

Gülgün Tınaz
Marmara University, Istanbul, Türkiye

Gülşah Gedik
Trakya University, Edirne, Türkiye

Haidar A. Abdulmir
Al-Maaql University, Basra, Iraq

Hamide Sena Özbay
Hacettepe University, Ankara, Türkiye

Hasan Erdiç Sellitpe
Karadeniz Technical University, Trabzon, Türkiye

İ. İrem Tatlı Çankaya
Hacettepe University, Ankara, Türkiye

Kerem Buran
University of Health Sciences, Istanbul, Türkiye

Klodiola Dhano
Aldent University, Tirana, Albania

Laleh Khodaei
Tabriz University of Medical Sciences, Tabriz, Iran

Lejla Klepo
University of Sarajevo, Sarajevo, Bosnia and Herzegovina

Lokman Ayaz
Trakya University, Edirne, Türkiye

Lorena Memushaj
Aldent University, Tirana, Albania

Maja Ortner Hadžlabđić
University of Zagreb, Zagreb, Croatia

Mehmet Gümüştaş
Ankara University, Ankara, Türkiye

Merve Kabasakal
University of Health Sciences, Istanbul, Türkiye

Mesut Sancar
Marmara University, Istanbul, Türkiye

Mirela Miraçlı
University of Medicine, Tirana, Albania

Mirjana Marčetić
University of Belgrade, Belgrade, Serbia

Mohd Younis Rather
Government Medical College Srinagar, Srinagar, India

Murat Doğan

Cumhuriyet University, Sivas, Türkiye

Nurdan Tekin
University of Health Sciences, Istanbul, Türkiye

Nurettin Yaylı
Karadeniz Technical University, Trabzon, Türkiye

Ongun Mehmet Saka
Ankara University, Ankara, Türkiye

Oya Kerimoğlu
Marmara University, Istanbul, Türkiye

Pablo Miralles Ibarra
University of Valencia, Burjassot, Spain

Patricia Riço
Lusofona University, Lisbon, Portugal

Pınar Talay Pınar
Yüzüncü Yıl University, Van, Türkiye

Rezarta Shkreli
Aldent University, Tirana, Albania

Rukiye Sevinç Özakar
Atatürk University, Erzurum, Türkiye

Rümeysa Keleş Kaya
Sakarya University, Sakarya, Türkiye

Saeideh Soltani
Isfahan University of Medical Sciences, Isfahan, Iran

Sakine Tuncay Tanrıverdi
Ege University, Izmir, Türkiye

Simone Carradori
G. d'Annunzio University of Chieti-Pescara, Chieti, Italy

Sinan Sermet
Istanbul Arel University, Istanbul, Türkiye

Sneha Agrawal
Bharati Vidyapeeth's College of Pharmacy, Navi Mumbai, Maharashtra, India

Somaleh Soltani
Tabriz University of Medical Sciences, Tabriz, Iran

Tarık Çatlı
Sarajevo School of Science and Technology, Sarajevo, Bosnia and Herzegovina

Turgut Taşkın
Marmara University, Istanbul, Türkiye

Uğur Karagöz
Trakya University, Edirne, Türkiye

Ünzile Yaman
Katip Çelebi University, Izmir, Türkiye

Viktorija Maksimova
Goce Delcev University, Shtip, Republic of N. Macedonia

Vildan Çelikoş
Cardiff University, Cardiff, UK

Vilma Toska Papajani
University of Medicine, Tirana, Albania

Yeliz Şahin
Ağrı İbrahim Çeçen University, Ağrı, Türkiye

Zahraa Amer Hashim
Mosul University, Mosul, Iraq

Zeina Althanoon
Mosul University, Mosul, Iraq

Zoran Zeković
University of Novi Sad, Novi Sad, Serbia

JRP

Journal of Research in Pharmacy

An international open-access journal of pharmacy and pharmaceutical sciences

Formerly published as Marmara Pharmaceutical Journal

ONLINE
SYMPOSIUM

GROUNDBREAKING DELIVERY SYSTEMS: LIPOSOME -MICROBUBBLES COMPLEXES

Pankaj DWIVEDI 

University of Health Science and Pharmacy in Saint Louis, USA

dwivedipank@gmail.com

Liposome-microbubble (LMBs) complexes are a type of drug transport system that is being advanced for most cancers therapy. LMBs is a singular technique inside the area of targeted chemotherapy that combines the benefits of liposomes and microbubbles.

Where liposomes are small, spherical structures with lipid bilayer which can encapsulate drugs, microbubbles are gas-stuffed lipidic system which are clinically used for ultrasound imaging. While those two systems are mixed, the resulting LMBs can target and supply therapeutics without delay to cancer cells. This method has the capability to improve the efficacy of cancer healing procedures and decrease facet effects through focusing the transport of the drugs to the most cancerous cells. Moreover, using ultrasound imaging to guide the delivery of the complexes can help enhance the accuracy and specificity of the treatment.

LMBs are created with the aid of encapsulating therapeutics within liposomes and then coating these liposomes as a layer to microbubbles. This aggregate results in a hybrid drug delivery system that lets in for focused and controlled launch of the therapeutic sellers on the site of disease.

The microbubbles serve as a comparison agent, allowing visualization of the LMBs for the duration of ultrasound imaging, which lets in real-time tracking of their movement and distribution within the body. This permits for precise focus on the therapeutic sellers to the diseased tissue, reducing the facet effects associated with traditional chemotherapy and increasing the healing efficacy of the treatment.

LMB technology has proven promising effects in preclinical research and is currently being examined in scientific trials for the treatment of various forms of cancer, which

include solid tumors and hematologic malignancies. in addition, this generation also can be used to supply healing dealers to different diseases, along with cardiovascular and inflammatory problems.

In conclusion, the liposome-microbubble era is a promising approach within the discipline of focused chemotherapy, presenting the potential for improved efficacy and decreased side results compared to traditional chemotherapy techniques.

Keywords: Liposome-microbubble complexes, drug transport systems, targeted chemotherapy.

REFERENCES

- [1] Dwivedi P, Kiran S, Han S, Dwivedi M, Khatik R, Fan R, Mangrío FA, Du K, Zhu Z, Yang C, Huang F, Ejaz A, Han R, Si T, Xu RX. Magnetic targeting and ultrasound activation of liposome-microbubble conjugate for enhanced delivery of anticancer therapies. *ACS Appl Mater Interfaces*. 2020;12(21):23737-23751. [[CrossRef](#)]
- [2] Schwartz MR, Debski AC, Price RJ. Ultrasound-targeted nucleic acid delivery for solid tumor therapy. *J Control Release*. 2021;339:531-546. [[CrossRef](#)]
- [3] Low LE, Lim HP, Ong YS, Siva SP, Sia CS, Goh BH, Chan ES, Tey BT. Stimuli-controllable iron oxide nanoparticle assemblies: Design, manipulation and bio-applications. *J Control Release*. 2022;345:231-274. [[CrossRef](#)]