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 lipol-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. Ongun Mehmet Saka
Ankara University, Ankara, Türkiye

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

**Second Session – Moderator: Ongun Mehmet SAKA 14.00-15.30 PM**

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

**Microeddles: 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. Halice Kübra ELÇİOĞLU

**Vice Chairs**
Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

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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, İstanbul, 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, Meara, India

Chair
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DEVELOPMENT OF INJECTABLE ROS RESPONSIVE NANOPARTICLES WITH IDENTIFIED PROTEIN FOR IMPROVE CARDIAC REPAIR FOLLOWING MYOCARDIAL INFARCTION

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Ischemic heart disease (IHD) is a type of heart disease that occurs when the blood supply to the heart muscle is blocked or reduced. This can be caused by fatty deposits in the arteries, which narrow the blood vessels and reduce blood flow to the heart. Symptoms of IHD can include chest pain, shortness of breath, and fatigue. Treatment may include lifestyle changes, medications, and procedures such as angioplasty or bypass surgery. Feasible targets and oxygen-producing material that may prevent or reverse disease progression are scarce and urgently needed [1]. In this study, we developed infarcted heart-targeting, oxygen-releasing nanoparticles accomplished of being targeted release of MG53 gene or administration of recombinant human MG53 (rhMG53) protein by intravenous injection at MI site, and specifically accumulating in the infarcted heart.

MG53 is a protein that is also known as TRIM72. It is a member of the tripartite motif (TRIM) protein family and is involved in a variety of cellular processes including muscle contraction, force generation, membrane repair, and cell survival [2]. MG53 has been shown to have a role in protecting cells against mechanical stress, and in recent studies, it has been suggested that it could have potential as a therapeutic target for diseases such as muscular dystrophy and myocardial infarction. Our findings demonstrate that oxygen-generating nanoparticles can provide a non-pharmacological solution to rescue the infarcted heart during MI and preserve heart function. This is still a developing area of research and further studies are needed to determine the efficacy and safety of this approach.

**Keyword:** Nanoparticles, targeted delivery, myocardial infarction, rhMG53.
REFERENCES
