

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. Ogun 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: Ogun 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

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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, 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

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BREAKING THE BARRIERS WITH CUTTING-EDGE INTRADERMAL DELIVERY TOWARDS PAIN-FREE SKIN THERAPY: DISSOLVABLE MICRO NEEDLE DEVICES FOR LOCALIZED THERAPY

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Quest for an efficient therapy with controlled and accurate delivery specifically at the ailment site leads to development of advanced localized delivery systems. In this league, microneedle devices are current trends of pain free localized intradermal delivery [1]. Moreover, microneedle devices have evolved as protagonist for skin through delivery aspects in various skin diseases including skin cancer [2-3].

Current treatment options for skin cancer have limitations of dose-limiting toxicity and side effects. Therefore, it is important to treat malignancies and affected lymph nodes with accuracy while sparing normal tissue [4]. The objective of research is to develop localized therapy for skin cancer using biodegradable microneedle devices. Reinvigorated from our previous findings on development of naringenin loaded sericin based microemulsion gel for photoaging [5], we explored programmed delivery strategies for localized skin delivery.

To demonstrate the programmed localized delivery through microneedle device, we designed synthetic UV responsive polymer and coat that on biodegradable microneedles through layer-by-layer polyelectrolyte coating method. In this study, we focused on investigation of UV responsive release behavior of microneedles and extent of localized delivery of nanocarriers from microneedles for noninvasive topical chemotherapy of melanoma. Our study will pave the way for a selective and programmed delivery based localized therapy on skin cancer. Altogether, localized

programmable delivery of therapeutics may provide accurate treatment in many non-resectable solid tumors and residual cancer cells after primary cytoreductive surgery.

Keywords: Microneedles, localized, skin therapy, intradermal delivery.

REFERENCES

- [1] Mishra R, Pramanick B, Maiti TK, Bhattacharyya TK. Glassy carbon microneedles-new transdermal drug delivery device derived from a scalable C-MEMS process. *Microsyst Nanoeng.* 2018;4:38. [\[CrossRef\]](#)
- [2] Mishra R, Maiti TK, Bhattacharyya TK. Design and scalable fabrication of hollow SU-8 microneedles for transdermal drug delivery. *IEEE Sensors Journal.* 2018; 18 (14): 5635-5644. [\[CrossRef\]](#)
- [3] Dwivedi M, Dwivedi J, Shen S, Dwivedi P, Guangli L, Xiarong X. Emerging Application of nanocelluloses for microneedle devices. In: *Handbook of Nanocelluloses: Classification, Properties, Fabrication, and Emerging Applications.* Springer. 2022, pp.335.
- [4] Zhi D, Yang T, Zhang T, Yang M, Zhang S, Donnelly RF. Microneedles for gene and drug delivery in skin cancer therapy. *J Control Release.* 2021;335: 158-177. [\[CrossRef\]](#)
- [5] Parashar P, Pal S, Dwivedi M, Saraf SA. Augmented therapeutic efficacy of naringenin through microemulsion-loaded sericin gel against UVB-induced photoaging. *AAPS PharmSciTech.* 2020;21(6):215. [\[CrossRef\]](#)