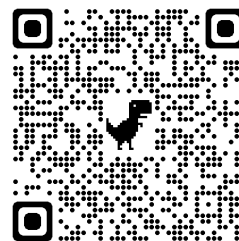


CURRENT RESEARCH TOPICS IN PHARMACY:

An Overview of Novelties in Cancer Treatment

February 15th, 2024



FIRST SESSION

10:00-11:30 AM

Moderator:

*Betül
OKUYAN*

Welcome

Prof. Hatice Kübra ELÇİOĞLU

*Natural products mediated targeting
of deregulated signaling pathways for
chemoprevention of carcinogenesis
and metastasis*

Prof. Ahmed Ammad Farooqi

Mesoporous silica nanoparticles: A
smart tool for biomedical applications
Assoc. Prof. Fahima Dilnawaz

Phytosomes: A Dynamic Innovation in
Cancer Treatment
Assist. Prof. Dhanashree Sanap

SECOND SESSION

13:00-14:30 PM

Moderator:

*Ceyda EKENTOK
ATICI*

Increased awareness of sex and
gender as modulators of cancer risk
and outcome is required among
cancer researchers

Assoc. Prof. Berna Özdemir

*Management of oral chemotherapy-
related problems in cancer patients*
Pharmacist Elif Aras Atik

Cervical Cancer Treatment and HPV
Vaccination: Preventive Priority for
Future Generations

Assist. Prof. Sneha Agrawal

THIRD SESSION

15:30-17:00 PM

Moderator:

Esra TATAR

Exploring new drug delivery avenues
for targeted and localized cancer
therapy through advanced
nanotherapeutics
Assist. Prof. Monika Dwivedi

Plectranthus: A Valuable Source of
Bioactive Compounds for Therapeutic
Applications

Assoc. Prof. Patricia Rijo

Targeted delivery of ligand-displaying
exosomes using RNA
nanotechnology for breast cancer
Dr. Burcu Üner

CHAIR

Prof. Hatice Kübra ELÇİOĞLU

VICE CHAIRS

Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR & Dr. Ayşe Nur HAZAR YAVUZ

ORGANIZING & SCIENTIFIC COMMITTEE

Editorial Board of Journal of Research in Pharmacy

<https://www.jrespharm.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:

An Overview of Novelties in Cancer Treatment

February 15th, 2024

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

Abdiharithm Mohammed Abdi
Yeditepe University, Istanbul, Türkiye

Afife Böyü Uğur Kaplan
Atatürk University, Erzurum, Türkiye

Ahmed Hamza Al-Shammari
Kut University College, Wasit, Iraq

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

Anil Kumar Dwivedi
Central Drug Research Institute, Lucknow, India

Anisa Elhami
University of Tripoli, Tripoli, Libya

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

Anjoaneta Trendafilova
Bulgarian Academy of Sciences, Sofia, Bulgaria

Ayşe Toprak Semic
Giresun University, Giresun, Türkiye

Ayfer Beceren
Marmara University, Istanbul, Türkiye

Ayşe Esra Karadağ
Istanbul Medipol University, Istanbul, Türkiye

Aygenur Günaydin Akyıldız
Bezalel Vakıf University, Istanbul, Türkiye

Bahadır Bülbül
Düzce University, Düzce, Türkiye

Berna Doğan
Istanbul Technical University, Istanbul, Türkiye

Betül Okuyan
Marmara University, Istanbul, Türkiye

Beysa Ecem Öz Bedir
Ankara Yıldırım Beyazıt University, Ankara, Türkiye

Birca Öner
The University of Health Science and Pharmacy in St. Louis, USA

Bilge Eray
Marmara University, Istanbul, Türkiye

Ceren Emir
Ege University, Izmir, Türkiye

Ceyda Ekenok Altı
Marmara University, Istanbul, Türkiye

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

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

Derya Özazvci
Marmara University, Istanbul, Türkiye

Dhanashree P. Sanap
Bharati Vidyapeeth's College of Pharmacy, Navi Mumbai, India

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

Ebru Alluntaş
Istanbul University, Istanbul, Türkiye

Efe Doğanhan Dincel
Istanbul University, Istanbul, Türkiye

Ela Hölü
University of Medicine, Tirana, Albania

Emine Terzi
Ankara Yıldırım Beyazıt University, Ankara, Türkiye

Emirhan Nemüşü
Hacettepe University, Ankara, Türkiye

Emre Kara
Hacettepe University, Ankara, Türkiye

Emrah Özakar
Atatürk University, Erzurum, Türkiye

Enkelajo Gudi
Aldent University, Tirana, Albania

Eniola Habeti
University of Medicine, Tirana, Albania

Ercan Rayman
Marmara University, Istanbul, Türkiye

Ermelinda Dumishi
Ministry of Education and Sports, Tirana, Albania

Fatma Misoune
University of Mostaganem, Mostaganem, Algeria

Gizem Tatar Yılmaz
Karadeniz Technical University, Trabzon, Türkiye

Gülberk Uğur
Hacettepe University, Ankara, Türkiye

Gülşah Tınaz
Marmara University, Istanbul, Türkiye

Gülşah Gedik
Trakya University, Edirne, Türkiye

Heider A. Abdulsamer
Al-Maadiq University, Basra, Iraq

Hamide Sena Özbay
Hacettepe University, Ankara, Türkiye

Hasan Erding Sallıtepe
Karadeniz Technical University, Trabzon, Türkiye

İgıl Yıldırım
Beykent University, Istanbul, Türkiye

İ İrem Tali Çankaya
Hacettepe University, Ankara, Türkiye

Kerem Buran
University of Health Sciences, Istanbul, Türkiye

Kiava Stepić
Albanian University, Tirana, Albania

Klodeta Dhamo
Aldent University, Tirana, Albania

Laleh Khodaei
Tabriz University of Medical Sciences, Tabriz, Iran

Lejla Kikoo
University of Sarajevo, Sarajevo, Bosnia and Herzegovina

Lokman Arız
Trakya University, Edirne, Türkiye

Long Chiau Ming
Sunway University, Sunway City, Malaysia

Lorana Memushaj
Aldent University, Tirana, Albania

Lynda Bourebaba
Wroclaw University of Environmental and Life Sciences, Wroclaw, Poland

Maja Orner Hadzibabic
University of Zagreb, Zagreb, Croatia

Mehmet Güncüoğlu
Ankara University, Ankara, Türkiye

Mehmet Özül
Gebze Technical University, Kocaeli, Türkiye

Merve Kabasakal
University of Health Sciences, Istanbul, Türkiye

Mesut Sancar
Marmara University, Istanbul, Türkiye

Milod N. Milosavljević
University of Kragujevac, Kragujevac, Serbia

Mirela Miraj
University of Medicine, Tirana, Albania

Mirjana Marčević
University of Belgrade, Belgrade, Serbia

Mohammed Jabbar Manna
Al-Mustansiriyah University, Baghdad, Iraq

Mohd Younis Rather
Government Medical College Srinagar, Srinagar, India

Murat Doğan
Cumhuriyet University, Sivas, Türkiye

Nasir İskidek
Petra University, Amman, Jordan

Nurdan Tekin
University of Health Sciences, Istanbul, Türkiye

Nurettin Yaylı
Karadeniz Technical University, Trabzon, Türkiye

Oğun Mehmet Saka
Ankara University, Ankara, Türkiye

Onur Serçinoğlu
Gebze Technical University, Kocaeli, Türkiye

Oya Kermiçli
Marmara University, Istanbul, Türkiye

Pablo Miralles Ibarra
University of Valencia, Burjassot, Spain

Pankaj Dwivedi
The University of Health Science and Pharmacy in St. Louis, USA

Patricia Rijo
Lusofona University, Lisbon, Portugal

Pinar Talay Pinar
Yüzüncü Yıl University, Van, Türkiye

Rajankant Patel
Granules Pharmaceuticals Inc., Chantilly, VA - 20151, USA

Renuka Khalik
Washington University in St. Louis, USA

Rezarta Shkrelli
Aldent University, Tirana, Albania

Rukiye Sevinç Özakar
Atatürk University, Erzurum, Türkiye

Rümeysa Keleş Kaya
Sakarya University, Sakarya, Türkiye

Saeidh Soltani
Isfahan University of Medical Sciences, Isfahan, Iran

Sahar Al-Dokki
National Research Centre, Cairo, Egypt

Sakine Tunçay Tamerçetin
Ege University, Izmir, Türkiye

Sana Rehman
HIMSR & HAHC Hospital, Jamia Hamdard, New Delhi, India

Selma Houch
University Ferhat Abbas, Setif, Algeria

Shahram Khademvatan
Urmia University of Medical Sciences, Urmia, Iran

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

Sihan Sermet
Istanbul Arel University, Istanbul, Türkiye

Sinem Göktürk
Marmara University, Istanbul, Türkiye

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

Somaiah 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 Kırarçöz
Trakya University, Edirne, Türkiye

Oniye Yaman
Kilip Çelebi University, Izmir, Türkiye

Youssefvan Mani
Qassim University, Al Qassim, Kingdom of Saudi Arabia

Viktorija Maksimova
Goce Delchev University, Sht. Republic of N. Macedonia

Vladan Çeliksoy
Cardiff University, Cardiff, UK

Vilma Toska Papajani
University of Medicine, Tirana, Albania

Zahraa Amer Hashim
Mosul University, Mosul, Iraq

Zeynep Nigar Özdemir Kumral
Marmara University, Istanbul, Türkiye

Zeyna Alhanoum
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

EXPLORING NEW DRUG DELIVERY AVENUES FOR TARGETED and LOCALIZED CANCER THERAPY THROUGH ADVANCED NANOTHERAPEUTICS

Monika DWIVEDI^{ID}*

Department of Pharmaceutical Sciences and Technology, Birla institute of Technology, Mesra, India

monika.nbri@gmail.com

*Corresponding and presenting author

Cancer therapy has evolved with the emergence of nanotherapeutics that implemented various innovative strategies for targeted and localized therapy. Moreover, by addressing the limitations of conventional chemotherapy, nanotherapeutics had paced the cancer diagnosis and therapy. These nano dragoons bearing anticancer drugs have displayed prominent delivery efficacy in cancer cells owing to their unique attributes such as high drug encapsulation efficiency, enhanced permeability and retention effect, surface modification for targeted and localized delivery in the vicinity of tumor. Furthermore, nanotherapeutic advancement featured with stimuli-responsive nanodelivery systems direct the release of therapeutic payloads in response to internal environmental signals or external stimuli modes thus generating on-demand chemotherapy. These advanced nanotherapeutics are developed by various surface modification strategies for tumor targeting as reflected through my research study on dextrose modified liposomes for improved therapeutic potential in hepatic carcinoma. In another research project, I am working on the development of ultrasound microbubbles for localized therapy for skin cancer management. The research outcomes from this project unveiled the capacity of ultradeformable liposomes anchored microbubbles to achieve a localized delivery into the deep-seated melanoma cells on ultrasound activation. In this league for safe chemotherapy, nanotherapeutics had unfolded multiple strategies for treatment of cancers that effectively improve bio-efficacy and reduce the toxic burden on patients.

Keywords: Nanotherapeutics; surface modification; chemotherapy; ultrasound; targeted and localized therapy.

References

- [1] Dwivedi P, Kiran S, Han S, Dwivedi M, Khatik R, Fan R, Mangrio 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. <https://doi.org/10.1021/acsami.0c05308>.
- [2] Parashar P, Rana P, Dwivedi M, Saraf SA. Dextrose modified bilosomes for peroral delivery: improved therapeutic potential and stability of silymarin in diethylnitrosamine-induced hepatic carcinoma in rats. *J Liposome Res*. 2019;29(3):251-263. <https://doi.org/10.1080/08982104.2018.1551408>.
- [3] Sharma M, Sharma S, Sharma V, Sharma K, Yadav SK, Dwivedi P, Agrawal S, Paliwal SK, Dwivedi AK, Maikhuri JP, Gupta G, Mishra PR, Rawat AKS. Oleanolic-bioenhancer coloaded chitosan modified nanocarriers attenuate breast cancer cells by multimode mechanism and preserve female fertility. *Int J Biol Macromol*. 2017;104(Pt A):1345-1358. <https://doi.org/10.1016/j.ijbiomac.2017.06.005>.
- [4] Parashar P, Rathor M, Dwivedi M, Saraf SA. Hyaluronic acid decorated naringenin nanoparticles: Appraisal of chemopreventive and curative potential for lung cancer. *Pharmaceutics*. 2018;10(1):33. <https://doi.org/10.3390/pharmaceutics10010033>.
- [5] Shukla RP, Dewangan J, Urandur S, Banala VT, Dwivedi M, Sharma S, Agrawal S, Rath SK, Trivedi R, Mishra PR. Multifunctional hybrid nanoconstructs facilitate intracellular localization of doxorubicin and genistein to enhance apoptotic and anti-angiogenic efficacy in breast adenocarcinoma. *Biomater Sci*. 2020;8(5):1298-1315. <https://doi.org/10.1039/c9bm01246j>.
- [6] Parashar P, Pal S, Dwivedi M, Saraf SA. Topical delivery of naringenin microemulsion through sericin gel for subsiding human epidermoid carcinoma and inhibiting UVB induced photoaging. *AAPS Pharma Sci Tech*. 2020; 21(6):215. <https://doi.org/10.1208/s12249-020-01766-1>.