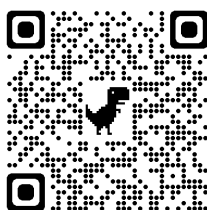


CURRENT RESEARCH TOPICS IN PHARMACY:

Herbal Drug Research

November 24th, 2022 14.00 PM ISTANBUL

FOR REGISTRATION:



First Session- Moderator: Betül OKUYAN 14.00-15.30 PM

Welcome- Prof. Hatice Kübra ELÇİOĞLU

Safety of herbal drugs- Assist.Prof. Ayfer BECEREN
Marmara University, Istanbul, Turkey

Antibacterial herbal effect applied in cosmetic emulsion preservation- Dr.Rezarta SHKRELI
Aldent University, Tirana, Albania

R&D studies in the development of traditional herbal medicinal products- Prof. İ. İrem TATLI ÇANKAYA
Hacettepe University, Ankara, Turkey

Second Session- Moderator: Betül OKUYAN 16.00-17.30 PM

The role of metabolomics in medicinal plant science-Prof.Emirhan NEMUTLU
Hacettepe University, Ankara, Turkey

Using diterpenoids from *Plectranthus* spp. As starting tool in drug development- Assoc.Prof.Patricia RIJO
Lusofona University, Lisbon, Portugal

Herbal drugs as novel antibacterials- Assoc. Prof. Entela HALOCI
University of Medicine, Tirana, Albania

The potential of certain phytochemicals as essential nutrients- Asst.Prof. Lukasz CIESLA
The University of Alabama, Tuscaloosa, USA

Chair

Prof. Hatice Kübra ELÇİOĞLU

Vice Chair

Prof. Levent KABASAKAL & Assoc. Prof. Esra TATAR

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THE ROLE OF METABOLOMICS IN MEDICINAL PLANT SCIENCE

Emirhan NEMUTLU ^{1,2}

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Today's innovative technologies enable comprehensive screening of the genome, transcriptome, proteome, and metabolome constituting an organism or part of it like a cell or plant. The knowledge converged in the omics, holds immense potential for understanding the mechanism of diseases, facilitating their early diagnostics, selecting personalized therapeutic strategies, and assessing their effectiveness. Metabolomics is the newest "omics" approach aimed at analyzing large metabolite pools and can detect and evaluate the slightest changes in a complex biological system. It can provide a phenotypic snapshot of a living organism by measuring multiple metabolites directly from complex biological systems including plants [1]. Metabolomics has been found to be suitable for medicinal plants to identify new active compounds, determine the vegetation period, investigate adulteration, evaluate the correlation between activity and chemotaxonomic distribution, and monitor quality control [1-3]. The challenge in plant metabolomics studies is that plant metabolism changes depending on genetic factors as well as various physiological and environmental factors. Therefore, in plant science, the metabolomics approach has become of very important, enabling the detailed analysis of their components, assessment of their quality, nutritional and organoleptic attributes, and studying their functional and toxicological aspects. Some applications of metabolomics in medicinal plant science research are discussed.

Keywords: Metabolomics, omics, medicinal plant

REFERENCES

- [1] Waris M, Kocak E, Gonulalan EM, Demirezer LO, Kir S, Nemutlu E. Metabolomics analysis insight into medicinal plant science. *Trac-Trends Anal Chem.* 2022; 157: 116795. [[CrossRef](#)]
- [2] Gonulalan EM, Nemutlu E, Bayazeid O, Koçak E, Yalçın FN, Demirezer LO. Metabolomics and proteomics profiles of some medicinal plants and correlation with BDNF activity. *Phytomedicine.* 2020; 74: 152920. [[CrossRef](#)]
- [3] Gonulalan EM, Nemutlu E, Demirezer LO. A new perspective on evaluation of medicinal plant biological activities: The correlation between phytomics and matrix metalloproteinases activities of some medicinal plants. *Saudi Pharm J.* 2019; 27(3) : 446-452. [[CrossRef](#)]