

From Medicinal Plants to Drug Products: *Research Lab, Formulations, Applications*

Organiser: Prof. H. Skaltsa, Department of Pharmacy, School of Health Sciences,
National and Kapodistrian University of Athens-NKUA

Co-Organiser: Post-doctorate researcher Dr. E-M Tomou, CIVIS Ambassador NKUA 2021-2022,
Department of Pharmacy, School of Health Sciences,
National and Kapodistrian University of Athens-NKUA

Agenda

Virtual activity

Monday 18.9.2023

10:00-11:00

A glance at important medicinal plants. Prof. E. Skaltsa, Dr. E-M. Tomou, Department of Pharmacognosy and Chemistry of Natural Products, NKUA.

11:00-12:00

Exploring the Synergy between Traditional Knowledge and Modern Science: Ethnopharmacology and Ethnobiology in the 21st Century. Prof. A. Ciric, Dr. D. Stojkovic, University of Belgrade, Institute for Biological Research & Siniša Stanković, National Institute of the Republic of Serbia.

Tuesday 19.9.2023

10:00-11:00

Biodiversity, Herbal Medicine and Drug Discovery. Assoc. Prof. M. Leonti, Department of Biomedical Sciences, University of Cagliari.

11:00-12:00

Natural products from Lab to shelf. Prof. N. Lall, Department of Plant and Soil Sciences, University of Pretoria.

Wednesday 20.9.2023

10:00-11:00

Importance of phytochemical studies on the discovery of new drug candidates from natural products. Prof. H. Kirmizibekmez, Yeditepe University, Faculty of Pharmacy, Department of Pharmacognosy, Istanbul, Turkey.

11:10-11:30

Secoiridoids, flavonoids and caffeoylquinic acid derivatives from *Scabiosa atropurpurea* and their antioxidant and xanthine oxidase inhibitory activities. C. Öztürk, Yeditepe University, Faculty of Pharmacy, Department of Pharmacognosy, Istanbul, Turkey.

11:30-12:00

Discussion about the students' presentations.



Thursday 21.9.2023

10:00-10:30

From waste to resource: hydrolytic extraction of pomegranate peel. Dr. T. Ugolini, University of Florence.

10:30-11:00

Hop compounds for neuroregeneration. Dr. C. Urmann, Hochschule Weihenstephan- Triesdorf, TUM Campus Straubing.

11:00-12:00

Virtual lab exercise.

Friday 22.9.2023

10:00-11:00

Formulations of natural products and plant extract to optimize solubility, stability, and bioavailability. Prof. AR Bilia, Department of Pharmaceutical Technology, University of Florence.

11:00-12:00

Common herb-drug interactions. Assistant Prof. E. Ersoy, Department of Pharmacognosy, Biruni University.

Monday 25.9.2023

10:00-11:00

Young researchers' session.

Design of experiment as a tool to develop and optimize nanocarriers. L. Grifoni, Department of Pharmaceutical Technology, University of Florence.

Evaluation of the antiproliferative and mechanistic potential of HF-EtOH against melanoma. J. Maphutha, University of Pretoria.

11:00-12:00

Virtual Lab exercise & Work hour for students' presentations.

Tuesday 26.9.2023

10:00-11:00

Plant biotechnology as a tool for obtaining the biologically active secondary metabolites. Prof. A. Szopa, Chair and Department of Pharmaceutical Botany Jagiellonian University Medical College, Cracow, Poland.

11:00-12:00

Young researchers' session.

Studies on stilbenoids and other phenolic compounds production in terms of antioxidant potential of *in vitro* shoot cultures of different *Vitis vinifera* cultivars. M. Sharafan, Department of Organic Chemistry and Technology, Faculty of Chemical Engineering and Technology, Cracow University of Technology, Poland.

Schisandra henryi - increasing the production of secondary metabolites by biotechnological methods, and evaluation of biological activity of the material obtained *in vitro* and *in vivo*. K. Jafernik, Department of Pharmaceutical Botany, Medical College, Jagiellonian University, Cracow, Poland.



Wednesday 27.9.2023

10:00-11:00

Application of 3D printing and design of experiments for the development of pharmaceutical products. Dr. E. Tsintavi, Department of Pharmaceutical Technology, School of Health Sciences, Faculty of Pharmacy, NKUA.

11:00-12:00

Young researchers' session.

Anti-tumor efficacy & apoptotic action of biocompatible. O. Kontogiannis, Department of Basic Medical Science, Laboratory of Biology, School of Medicine, NKUA; Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation.

Seseli bocconeii, *S. tortuosum subsp. maritimum* and *S. tortuosum subsp. tortuosum* essential oils exerting antitumor activity against colon cancer cells. A. Vaglica, University of Palermo.

Thursday 28.9.2023

10:00-11:00

Young researchers' session

Abnormal cannabinoids possess anti-candida properties. P. Ofori, International Program for Bio-Medical Sciences, Dental Faculty, Institute of Drug Research, School of Pharmacy, The Hebrew University of Jerusalem (IL).

Maackiain prevents glucose-induced lipid accumulation in *Caenorhabditis elegans*. M. Savova, Institute of Microbiology, Bulgarian Academy of Sciences.

Targeting pro-longevity pathways in *Caenorhabditis elegans* through natural compounds – icariin effect on stress resistance and lifespan. M. Todorova, Institute of Microbiology, Bulgarian Academy of Sciences.

Friday 29.9.2023

10:00-11:00

In silico methods in the assessment of natural compounds – strengths and pitfalls.

Prof. R. Ancuceanu, Carol Davila University of Medicine and Pharmacy.

11:00-12:00

Discussion about the students' physical activity.



Monday 2.10.2023

9:30-10:00

Welcoming by the organizing committee - Welcoming round-Teambuilding activity.

10:00-11:00

Biosynthesis of Natural Products. Prof. E. Skaltsa, Dr. E-M. Tomou, Department of Pharmacognosy and Chemistry of Natural Products, NKUA.

11:00-11:30

Coffee break.

11:30-12:30

Essential oils from medicinal herbs: chemistry, biology and applications. Prof. D. Lazari, School of Health Sciences, Faculty of Pharmacy, Department of Pharmacology and Pharmacognosy, Aristotle University of Thessaloniki.

12:30-13:30

Quality control of herbal products. Assoc. Prof. A. Karioti, School of Health Sciences, Faculty of Pharmacy, Department of Pharmacology and Pharmacognosy, Aristotle University of Thessaloniki.

13:30-15:00

Lunch break.

15:00-16:00

Bioprospecting for new bioactive compounds from marine organisms that still represent an underexplored source of chemodiversity. Assoc. Prof. E. Ioannou, Department of Pharmacognosy and Chemistry of Natural Products, NKUA.

16:00-17:00

Epistemology & axiology in scientific research & practice. Dr. G. Vassilopoulos.

Tuesday 3.10.2023

9:30-10:30

Immunopharmacology and inflammation. Prof. E. Tiligada, School of Medicine, NKUA.

10:30-11:00

Coffee break.

11:00-12:00

In cellulo, ex vivo and in vivo approaches to assess hematopoietic response to medicinal plants-natural and -derived compounds. Prof. C. Calés-Bourdet, Universidad Autónoma de Madrid.

12:00-13:00

In vivo application and pharmacokinetic/pharmacodynamic evaluation, of natural products formulations with enhanced biopharmaceutical and pharmacokinetic properties. Dr. P. Papakyriakopoulou, Department of Pharmaceutical Technology, School of Health Sciences, Faculty of Pharmacy, NKUA.

13:00-14:00

Lunch break

14:00-15:00

Methods of evaluation of natural products for activity and toxicity in skin health and diseases, Assoc. Prof. M. Rallis, Department of Pharmaceutical Technology, School of Health Sciences, Faculty of Pharmacy, NKUA.

15:00-16:00

Smart hydrogel films for wound monitoring and healing. Lect. L. Ruta, University of Bucharest.

16:00-17:30

Laboratory practice.



Wednesday 4.10.2023

9:30-10:30

The anti-obesity potential of plant natural compounds. Prof. M. Georgiev, Institute of Microbiology, Bulgarian Academy of Sciences.

10:30-11:00

Coffee break.

11:00-12:00

Nanoformulations of natural products: their properties and applications. Ass. Prof. N. Pippa, Department of Pharmaceutical Technology, School of Health Sciences, Faculty of Pharmacy, NKUA.

12:00-13:00

Anticancer effect of photocatalytic nanoparticles. Ass. Prof. N. Lagopati, Laboratory of Biology, Faculty of Medicine, NKUA.

13:00-14:00

Lunch break.

14:00-15:00

From agricultural waste and by-products to pharmaceutical and nutraceutical applications. Prof. D. De Vita, Sapienza University of Rome.

15:00-17:00

Laboratory practice.

Thursday 5.10.2023

9:00-14:00

Visit a pharmaceutical industry.

15:00-17:00

Laboratory practice.

Friday 6.10.2023

10:00-11:00

Young Researcher's Talks

Origanum dictamnus: phytochemical analyzes and relaxing effect on rabbit intestine. C. Paloukopoulou. School of Health Sciences, Faculty of Pharmacy, Department of Pharmacology and Pharmacognosy, Aristotle University of Thessaloniki.

The pharmaceutical potential of *Amelanchier ovalis* Medik. (Rosaceae), a neglected and underutilized species. T. Papagrigoriou, School of Health Sciences, Faculty of Pharmacy, Department of Pharmacology and Pharmacognosy, Aristotle University of Thessaloniki.

The genus of *Stachys*: the case of *S. parolinii*. M. Anagnostou. Department of Pharmacognosy and Chemistry of Natural Products, NKUA.

11:00-11:30

Coffee break

11:30-13:00

Young Researcher's Talks

Cytotoxicity of *Vinca sardoa* (Stearn) Pignatti extracts on leukemic cells. F. Conti, Sapienza University of Rome.

Innovative approaches to prevention and treatment of hepatic steatosis. K. Fyka, School of Medicine, NKUA
Hybrid systems of Poloxamer 407/surfactant/cyclodextrin loaded with Ropinirole Hydrochloride for Nose-to-Brain delivery: preparation, physicochemical characterization and in vitro evaluation. E-M. Saitani, Section of Pharmaceutical Technology, Department of Pharmacy, School of Health Sciences, NKUA.



Novel dual-responsive DSPC:DOPC:P(OEGMA950-DIPAEMA) nanoplatforms: Exploring the design parameters influencing their behavior. E. Triantafyllopoulou, Section of Pharmaceutical Technology, Department of Pharmacy, School of Health Sciences, NKUA.

13:00-14.00

Lunch break

14:00-15:00

Natural Diversity of Plant Quinones. B. Blackburn, Virginia Tech.

Nanotechnology: A promising resource for the present and future of dentistry.

T-F.Valamvanos, Laboratory of Biology, Faculty of Medicine, NKUA.

15:00-17:00

Presentations: students will make the presentations relative to the program's theme.

Close ceremony.

