



STUDENT RESEARCH GROUP ON PHARMACEUTICAL BOTANY

Academic year 2022-2023

Acronym: **FARMAPLANT**

Research team:

Professor Corneliu Tanase PhD - Group coordinator

Technician Darko Bela

Contact: George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Targu Mures
Faculty of Pharmacy, Department of Pharmaceutical Botany, Gheorghe Marinescu street, no 38, Postal
Code 540139, Phone: +40.265.215551 ext. 361, **Email:** corneliu.tanase@umfst.ro

Students currently involved:

Sanda Coșarcă, PhD student

Babota Mihai, PhD student

Adrian Nisca, PhD student

Alina-Năstaca, Coman PhD student

5th Year of study, pharmacy program: Pantea Lorena, Predeleanu Alexandra, Covrig Laura, Pitaru Alexandru, Rideg Lucian, Dragnea Bianca, Dinica Stefania.

4th Year of study, pharmacy program: Bozanic Joana.

3th Year of study, pharmacy program: Boghian Denisa

3th Year of study, Medical cosmetics. Cosmetic product technology program: Sisea Sanziana

Research topics:

- Identification and valorisation of spontaneous medicinal plants from flora of Romania
- Contributions to the biological activity of natural extracts with high content in polyphenols
- The study of symbiotic mushroom groups with implications in the growth and development of medicinal plants
- The influence of ecological factors on the growth and development of some medicinal plants

Research infrastructure:



- Research Center for Medicinal and Aromatic Plants
- University Botanical Garden
- Pharmaceutical Botany Laboratory

Relevant in extenso ISI articles of the research team with student's contribution:

1. Nisca, A.; Stefanescu, R.; Moldovan, C.; Mocan, A.; Mare, A.D.; Ciurea, C.N.; Man, A.; Muntean, D.-L.; Tanase C. Optimization of Microwave Assisted Extraction Conditions to Improve Phenolic Content and In Vitro Antioxidant and Anti-Microbial Activity in *Quercus cerris* Bark Extracts, *Plants* 2022, 11, 240. <https://doi.org/10.3390/plants11030240> 3.935 (Q1)
2. Berta L., Coman N.A., Rusu A., Tanase C. A Review on Plant-Mediated Synthesis of Bimetallic Nanoparticles, Characterisation and Their Biological Applications, *Materials*, 2021, 14, doi.org/10.3390/ma14247677, 7677, 1996-19443.623 (Q1)
3. Nisca, A.; Ștefănescu, R.; Stegăruș, D.I.; Mare, A.D.; Farczadi, L.; Tanase, C. Phytochemical Profile and Biological Effects of Spruce (*Picea abies*) Bark Subjected to Ultrasound Assisted and Microwave-Assisted Extractions. *Plants* 2021, 10, Fi: 3,935 (Q1) 870.
4. Nisca A., Ștefănescu R., Stegăruș D.I., Mare A.D., Farczadi L., Tanase C., Comparative Study Regarding the Chemical Composition and Biological Activity of Pine (*Pinus nigra* and *P. sylvestris*) Bark Extracts, *Antioxidants* 2021, 10, 327. <https://doi.org/10.3390/antiox10020327> FI: 6.312 (Q1)
5. Coman, A.N.; Mare, A.; Tanase, C*.; Bud, E.; Rusu, A. Silver-Deposited Nanoparticles on the Titanium Nanotubes Surface as a Promising Antibacterial Material into Implants. *Metals* 2021, 11, 92. <https://doi.org/10.3390/met11010092>, FI: 2.351 (Q2)
6. Burlacu E, Nisca A, Tanase C., A comprehensive review of phytochemistry and biological activities of *Quercus* species, *Forests* 2020, 11(9), 904, doi.org/10.3390/f11090904 Fi: 2,221
7. Tanase C., Ștefănescu R., Gheorghieș D.G.; Dandu L., Nisca A., Darkó B., Socaci S.A., Effects of Beech Bark Extract in the Sage (*Salvia officinalis* L.) Plant Growth and Volatile Oil Profile, *Agronomy* 2020, 10, 676; [doi:10.3390/agronomy10050676](https://doi.org/10.3390/agronomy10050676), FI: 2.603
8. Tanase C., Lavinia Berta, Năstaca Alina Coman, Ioana Roșca , Adrian Man, Felicia Toma, Andrei Mocan, László Jakab-Farkas, Domokos Biró and Anca Mare, Investigation of In-Vitro antioxidant and antibacterial potential of silver nanoparticles obtained by biosynthesis using beech bark extract, 2019, *Antioxidants*, FI: 4,520
9. Tanase C., Mocan A, Coșarcă S, Gavan A, Nicolescu A, Gheldiu AM, Vodnar DC, Muntean DL, Crișan O. Biological and Chemical Insights of Beech (*Fagus sylvatica* L.) Bark: A Source of Bioactive Compounds with Functional Properties. *Antioxidants (Basel)*. FI: 4,520, 2019 Sep 19;8(9). 417, [doi: 10.3390/antiox8090417](https://doi.org/10.3390/antiox8090417).
10. Tanase, C.; Nișca, A.; Mirica, A.; Milan, A.; Boz, I. Wood Bark as Valuable Raw Material for Compounds with a Bioregulator Effect in Lemon Balm (*Melissa officinalis* L.) *Plants. Appl. Sci.* 2019, 9, 3148, FI: 2,217, doi.org/10.3390/app9153148.



11. Tanase, C.; Coșarcă, S.; Muntean, D.-L. A Critical Review of Phenolic Compounds Extracted from the Bark of Woody Vascular Plants and Their Potential Biological Activity. *Molecules* 2019, 24, 1182, FI: 3,06 doi: 10.3390/molecules24061182.
12. Coșarcă, S, Moacă, EA, Tanase, C, Muntean, DL, Pavel, IZ, Dehelean CA, Spruce and beech bark aqueous extracts: source of polyphenols, tannins and antioxidants correlated to in vitro antitumor potential on two diferent cell lines, *Wood Science and Technology*, 2019, (2019) 53: 313–333, FI:1,912, doi:10.1007/s00226-018-1071-5.
13. Tanase C., Domokos E., Coșarcă S., Miklos A., Imre S., Domokos J., Dehelean C. A., Study of the ultrasound-assisted extraction of polyphenols from beech (*Fagus sylvatica* L.) bark, *BioResources*, 2018, 13(2), FI:1,202
14. Coșarcă S., Roșca I., Coman A., Nagy Bota MC., Tanase C., Effect of treatment with saline solution (NaCl) on rape plants in presence of the hemp shives. *Revista de Chimie*, 2017, 68(8): 1843-1846, FI: 1,412

Relevant abstracts with student's contribution:

1. Roșca Ioana, Berța Lavinia, Corneliu Tanase, BIOSYNTHESIS OF SILVER NANOPARTICLES USING AQUEOUS EXTRACTS OBTAINED FROM PICEA ABIES L. AND FAGUS SYLVATICA L. BARK, National Congress for Students, Young Doctors and Pharmacists “Marisiensis”, 27-31 martie, 2018, Târgu Mureș, Romania.
2. Adrian Nișca, Andreea Milan, Mirica Anca, Corneliu Tanase, WOOD BARK AS VALUABLE RAW MATHERIAL FOR COMPOUNDS WITH BIOREGULATOR EFFECT IN LEMON BALM (*MELISSA OFFICINALIS* L.) PLANTS, National Congress for Students, Young Doctors and Pharmacists “Marisiensis”, 28 martie - 1 Aprilie 2018, Tîrgu Mureș, Romania.
3. Sanda-Liliana Coșarcă, Elena-Alina Moacă, Corneliu Tanase, Daniela Lucia Muntean, Ioana Zinuca Pavel, Silvia Oroian, Cristina Adriana Dehelean, BARK AQUEOUS EXTRACTS CORRELATED TO IN VITRO ANTITUMOR POTENTIAL ON TWO DIFFERENT CELL LINES, Scientific Aniversary Symposium - 70 Years from Fondation of University Botanical Garden, Tîrgu-Mureș: 1948 — 2018, Tîrgu Mureș, Romania, 30 May - 01 June 2018