



Student research group on phytochemistry

Academic year 2022-2023

Acronym: **PHYTOCHEM**

Coordinators of the research group:

Associate Professor Varga Erzsébet PhD

Senior lecturer Laczkó-Zöld Eszter PhD

Senior lecturer Ștefănescu Ruxandra PhD

Technician Balizs Attila

Contact:

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Research topics:

- Analysis of hydrophilic and lipophilic compounds extracted from herbal drugs and berries with antioxidant capacity
- Critical evaluation of dietary supplements from Romanian market
- Phytochemical, microbiological and pharmacological study of some medicinal plants
- Phytochemical analysis of polyphenolic compounds from *Vaccinium* species

Relevant research infrastructure:

UV/VIS microplate Spectrophotometer (Biotek/ Epoch™ 2), UV/VIS Spectrophotometer, Freeze dryer (Alpha 1-2LD Plus), Ultrasound bath (Nachita), Microscope with photo camera (MICROS, MCX50), Rotary evaporator (Janke & Kunkel IKA Labortechnik)

Students currently involved in PHYTOCHEM research group:

Students from the 5th years of study

Bartok Krisztina

Cristian Mădălina

Farkas Hanna

György Emese

Kerekes Andrea

Komporály Szabina

Koncz Gabriella

Nagy Adrien





Olar Diana
Püsök Katalin
Stoica Rebeca
Tódor Timea

Students from the 4th year of study

Alföldi Ingrid
Barta Biborka
Bartók Brigitta
Lőrincz Réka
Szabó Nándor

Relevant abstracts/in extenso publications with student's contribution (*student):

Year 2022:

1. Erzsébet Varga, **Noémi Birtalan***, Ibolya Fülöp: Comparative polyphenolic, flavonoid and anthocyanin content and antioxidant activities of pomegranate juice and seeds. . Natural Products in Drug Discovery and Development – Advances and Perspectives. PSE Meeting 2022, September 19-22 Iasi, Romania, Abstarcts Book, pag 179.
2. Ruxandra Ștefănescu, **Ioana Rasteiu***, **Monica Sebestyen***, Eszter Laczko-Zold: HPLC-DAD analysis of anthocyanins from Ribes Nigrum fruit extracts. Natural Products in Drug Discovery and Development – Advances and Perspectives. PSE Meeting 2022, September 19-22 Iasi, Romania, Abstarcts Book, pag 115.
3. Eszter Laczkó Zöld, **Larisa Melinda Toth***, Lenard Farczadi, Ruxandra Ștefănescu: Phenolic profile and antioxidant properties of Momordica Charantia l. grown in Romania. Natural Products in Drug Discovery and Development – Advances and Perspectives. PSE Meeting 2022, September 19-22 Iasi, Romania, Abstarcts Book, pag 202.
4. **Szabó Nándor***: Az Ipomomea batatas (L.) Lam. gyökérgúmójának fitokémiai vizsgálata (Studiul fitochimic al tuberculilor de Ipomomea batatas (L.) Lam), Orvostudományi Értesítő, 2022, 95, 2, 115. Abstract.
5. **Kinda Andrea***. Rákellenes növényi hatóanyagok (Substanțe active vegetale anticancerigene), Orvostudományi Értesítő, 2022, 95, 2, 111. Abstract.
6. **Birtalan Noémi***, Varga Erzsébet: A terápiás céllal használt gránátalma (Punica granatum L.) fitokémiai vizsgálata (Studiul fitochimic al rodiei (Punica granatum L.) utilizate în scopuri terapeutice), Orvostudományi Értesítő, 2022, 95, 1, 13. Abstract.
7. **Edina- Blanka Kolcsár***, Boglárka Csupor Löffler, Dezső Csupor, Tamás Ferenci, Eszter Laczkó Zöld: The effects of Momordica charantia on metabolic syndrome – a systematic review and meta-analysis of randomized, controlled trials. Book of abstract. Acta Marisiensis - Seria Medica, 2022, 68, suppl.3, pag 147.
8. **Ioana Cupse***, Ruxandra Ștefănescu: Abortifacient and teratogenic effects of medicinal plants. Book of abstract. Acta Marisiensis - Seria Medica, 2022, 68, suppl.3, pag 229.
9. **Monica Sebestyen***, Jozsa Eszter, Emilia-Ruxandra Ștefănescu: The phytochemical evaluation of seven blackcurrant varieties. Book of abstract. Acta Marisiensis - Seria Medica, 2022, 68, suppl.3, pag 145.





10. **Alexandra-Simina Muresan***, Ruxandra Ștefănescu: The influence of altitude on the phytochemical profile of bilberry leaves. Book of abstract. Acta Marisiensis - Seria Medica, 2022, 68, suppl.3, pag 146.

Year 2021:

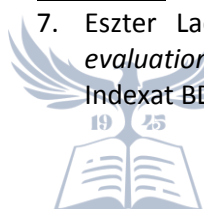
1. Ștefănescu, R.; Farczadi, L.; Huțanu, A.; Ősz, B.E.; Mărușteri, M.; **Negroiu, A.***; Vari, C.E. *Tribulus Terrestris Efficacy and Safety Concerns in Diabetes and Erectile Dysfunction, Assessed in an Experimental Model*. Plants **2021**, *10*, 744, doi:[10.3390/plants10040744](https://doi.org/10.3390/plants10040744).
2. Eszter Laczkó-Zöld, **Blanka Bacsadi***, Attila Horváth, Dezső Csupor: *Development and validation of a RP-HPLC-DAD method for quantification of charantin in Momordica charantia products*, Journal of Food Composition and Analysis, 2021, doi: [10.1016/j.jfca.2021.104161](https://doi.org/10.1016/j.jfca.2021.104161).
3. **Kovács Alexandra Gréta***: *Gyógyszerek és gyógynövények együttes alkalmazásának következménye*, Orvostudományi Értesítő, 2021, 94, 1, 120. Abstract.
4. Takacs I, **Urkon M***, Kiss T, Horvath E, Laczko-Zold E, Zomborszki ZP, Lukacs A, Oszlanczi G, Csupor D, Szabo A: *The Effect of Wheatgrass Lyophilizate on Blood Clotting Time in Rats*, Scientia Pharmaceutica, 2021, 89 (3), Article Number: 39. DOI: 10.3390/scipharm89030039. WOS:000701757600001. eISSN: 2218-0532. ISI fara FI.
5. Domokos Erzsébet, **Martonfi Gréta-Tamara***, Laczkó Zöld Eszter: Hozzájárulások a romániai piacon található akác- és hársz mézek melisszopalinológiai vizsgálatához. XVI. Magyar Növényanatómiai Szimpózium, 2021. november 12. Online, volum de abstract, pag 9. ISBN: 978-963-429-825-0.

Year 2020:

1. Ștefănescu R, Tero-Vescan A, **Negroiu A***, **Aurică E***, Vari CE: *A Comprehensive Review of the Phytochemical, Pharmacological, and Toxicological Properties of Tribulus terrestris L.* Biomolecules, 2020, 10 (5), doi.org/10.3390/biom10050752.
2. Ruxandra Ștefănescu, Eszter Laczko-Zold, Anca Mare, Sigrid Eșianu, Izabela Grama, **Ancuța Negroiu***, Camil Vari – *Risks and Benefits Associated with Tribulus terrestris Products Assessed by Phytochemical and Pharmacological Screening*. Rev.Chim., 2020, 71 (4), 416-423.
3. **Ferencz Elek***, **Demeter Eszter***, **Király Rebeka***, Vancea Szende, **Urkon Melinda***, Laczkó-Zöld Eszter - *A romániai piacon található kasvirág tartalmú étrend-kiegészítők feltérképezése és a leggyakrabban használt termékek minőségi értékelése (Mapping of Echinacea-based dietary supplements on the Romanian market and qualitative evaluation of the most commonly used products)*. Orvostudományi Értesítő (Bulletin of Medical Sciences), 2020, 93(2). DOI: 10.2478/orvtudert-2020-0008.
4. Varga E., **Lieb D.***, Maráz A. *Primula veris L. kivonatok fitokémiai és antimikrobiális hatásának vizsgálata (Investigation of the phytochemical and antimicrobial activity of Primula veris L. extracts)*. OrvTudErt 2020, 93(1), 33-37. ISSN 2537-5059, in press.
5. **Roncea F***, Laczko-Zold E, Ștefănescu R: *The analysis of total polyphenolic content and antioxidant activity of different honey samples*. Acta Marisiensis Seria Medica, 2020, 66, 78. International congress for students, young doctors and pharmacists Marisiensis, 25-29 martie 2020, Târgu Mureș, România.
6. **Marian (Ignat) R***, Ștefănescu R: *Antioxidant capacity of a daily face cream with anthocyanins extracted from bilberry*, Acta Marisiensis Seria Medica, 2020, 66, 78. International congress for students, young doctors and pharmacists Marisiensis, 25-29 martie 2020, Târgu Mureș, România.

Year 2019:

7. Eszter Laczkó-Zöld, **Andrea Komlósi***, Erzsébet Varga, Nóra Papp: *Comparative histological evaluation of the fruit of Ribes nigrum and Ribes rubrum*. Acta Biologica Marisiensis, 2019, 2(2), 5-14. Indexat BDI. DOI: 10.2478/Abmj-2019-0006.

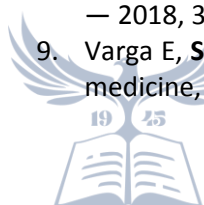




8. **Negroiu A***, Vari CE, Farczadi L, Ștefănescu R: *The effects of Tribulus terrestris on testosterone levels of diabetic rats*. Acta Medica Marisiensis, 2019, 65, S1, 69. International Congress for Students, Young doctors and Pharmacists Marisiensis, Târgu Mureș, 2019.
9. Varga E, Szőke H, **Chiorean C***, **Lieb D***: *A Primula veris L. növényi részek hatóanyagainak vizsgálata*. Orvostudományi Értesítő, 2019, 92 (2), 40. Erdélyi Múzeum Egyesület, Orvos-és Gyógyszertudományi Szakosztály, XXIX Tudományos Ülésszak, Satu-Mare, 11-13 aprilie 2019. ISSN:1453-0953 (print).
10. Eszter Laczkó Zöld, Attila Horváth, **Blanka Bacsadi***, Dezső Csupor: *Development and validation of a HPLC-UV method for the quantification of charantin in Momordica charantia products*. Trends in Natural Product Research – PSE Young Scientists' Meeting Budapest, June 19th-21st, 2019, Book of abstract, pg 119, doi: 10.14232/tnpr.2019.af.
11. **Elek Ferencz***, Norbert Kúsz, Judit Hohmann, Martin Vollár, Ágnes Molnár, Eszter Laczkó-Zöld, Zoltán Péter Zomborszki, Boglárka Csupor-Löffler: *Chemical characterization of common ragweed (Ambrosia artemisiifolia L.) root*. Trends in Natural Product Research – PSE Young Scientists' Meeting Budapest, June 19th-21st, 2019, Book of abstract, pg 118, doi: 10.14232/tnpr.2019.af.

Year 2018:

1. Eszter Laczkó-Zöld, **Andrea Komlósi***, **Timea Ülkei***, Erzsébet Fogarasi, Mircea Croitoru, Ibolya Fülöp, Erzsébet Domokos, Ruxandra Ștefănescu, Erzsébet Varga: Extractability of polyphenols from black currant, red currant and gooseberry and their antioxidant activity, Acta Biologica Hungarica, 2018, 69 (2), 156-169, cotat ISI, FI 0,439.
2. Varga E, **Schmidt I***, **Szövérfi B***, Pop MD, Kelemen H, Tóth A: Phenolic content from medicinal plants and their products used in veterinary medicine, Acta medica Marisiensis, 2018, 64 (2), 77-82, BDI
3. **Ferencz Elek***: A parlagfűgyökér (Ambrosiae artemisiifoliae radix) farmakognóziái vizsgálata / Studiul farmacognostic a rădăcinii de ambrozia (Ambrosiae artemisiifoliae radix). Conferința TDK, Ediția 25, 21-24 martie 2018. Locul I
4. **Dulau Carina Melina***, Esianu Sigrid, Stefanescu Ruxandra: Understanding flavonoid-drug interactions. Acta Medica Marisiensis, 2018, 64, suppl. 1, pp.85. Conferința Marisiensis, 28 martie-1 aprilie, 2018.
5. **Blaș Iuliana***: Influenta căilor de administrare a uleiului volatil de fenicul în diabetul zaharat indus prin streptozocină la șobolani. Coordonator: Eșianu Sigrid, Ștefănescu Ruxandra. Volum de rezumate lucrări științifice, Congresul Național al Studenților Farmaciști din România, Editia a 16-a, Iași, 28 martie -1 aprilie 2018.
6. Laczkó Zöld Eszter, **Szabó Dalma***, Májai Fogarasi Erzsébet, Stefanescu Ruxandra, Varga Erzsébet: Polifenolos vegyületek vizsgálata madárberkenye (Sorbus aucuparia L.) termésből. Studiul compușilor polifenolici extrași din fructe de scoruș de munte (Sorbus aucuparia L.). Abstract. Buletin de Științe Medicale/Orvostudományi Értesítő, 2018, 91, suppl.2, 28. XXVIII-a Ediție a Sesiunii Științifice Anuale, 19-21 aprilie 2018, Târgu Mureș.
7. **Elek Ferencz***, Eszter Laczkó-Zöld, Boglárka Csupor-Löffler: Phytochemical analysis of common ragweed root (Ambrosiae artemisiifoliae radix), Acta Medica Marisiensis, 2018, 64, supl 3, pp 12. ISSN: 2068 – 3324. Scientific Aniversary Symposium - 70 Years from Foundation of University Botanical Garden, Tîrgu Mureș 1948 – 2018, 30 May - 01 June 2018, Tîrgu Mureș
8. Eszter Laczkó-Zöld, **Dalma Szabó***, Erzsébet Fogarasi, Rita Tömösközi-Farkas, Ruxandra Ștefănescu, Erzsébet Varga, Sigrid Eșianu: Contribution to the phytochemical evaluation of rowanberry fruits (Sorbus aucuparia L.), Acta Medica Marisiensis, 2018, 64, supl 3, pp 13. ISSN: 2068 – 3324. Scientific Aniversary Symposium - 70 Years from Foundation of University Botanical Garden, Tîrgu Mureș 1948 – 2018, 30 May - 01 June 2018, Tîrgu Mureș
9. Varga E, **Schmidt I***, **Szövérfi B***, Pop M, Tóth A: The role of medicinal plants used in the veterinary medicine, Acta Medica Marisiensis, 64, supl 3, pp.24. ISSN: 2068 – 3324. Scientific Aniversary





Symposium - 70 Years from Foundation of University Botanical Garden, Tîrgu Mureș 1948 — 2018, 30 May - 01 June 2018, Tîrgu Mureș

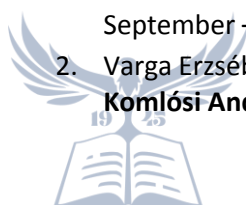
10. Varga E, **Schmidt I***, Pop M, **Szövérfi B***: Allatgyógyászati termékek formulálásánál figyelembe vett polifenolos vegyületek. Buletin de Științe Medicale / Orvostudományi Értesítő, 2018, 91, suppl.2, 49. XXVIII-a Ediție a Sesiunii Științifice Anuale, 19-21 aprilie 2018, Târgu Mureș.
11. Ștefănescu R, **Negroiu A***, Mare A, Vari C: Phytochemical and pharmacological profiles of two products with *Tribulus terrestris*., Days of the University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Scientific Session of University Academic Staff, December 10th-14th 2018. Book of abstracts 2018, 1, 68-69. ISSN 2602-1609.

Year 2017:

1. **Bacsadi Blanka***: Castravete amar cultivat în România (*Momordica charantia* L.) – contribuții la studiul farmacognostic. Abstract în Buletin de Științe Medicale, 2017, 90 (suppl.1), pp. 157. Coordonator: dr. Laczkó-Zöld Eszter. Conferința Științifică Studentesacă, 29 martie - 1 aprilie 2017, Tîrgu Mureș.
2. **Komlósi Andrea***, **Ülkei Timea***: Compuși polifenolici, activitatea antioxidantă și analiza microscopică a unor fructe de *Ribes*. Abstract în Buletin de Științe Medicale, 2017, 90 (suppl.1), pp. 158. Coordonator: dr. Laczkó-Zöld Eszter. Conferința Științifică Studentesacă, 29 martie - 1 aprilie 2017, Tîrgu Mureș.
3. Varga E, **Schmidt I***, **Szövérfi B***, Fazakas M: Determination and comparison of phenolic compounds of medicinal plants and veterinary herbal medicines. Book of Abstracts of the 7th BBBB International Conference on Pharmaceutical Sciences, Acta Pharmaceutica Hungarica, 2017, 87 (3-4), pp. 172-173.
4. Ferencz Adél, Boros Katinka, Kovács Erika, **Komlósi Andrea***, Varga Erzsébet, Papp Nóra: Etnofarmakobotanikai felmérés Homoródszentmárton környékén. Abstract. Buletin de Științe Medicale, 2017, 90, suppl.2, pp.17.
5. **Fábián Adélka***, Schulte Sonja, Varga Erzsébet: Spagyrika, mint a kiválsztó készülek megbetegedéseiben használt gyógymód. Abstract. Buletin de Științe Medicale, 2017, 90, suppl.2, pp.14.
6. Laczkó-Zöld Eszter, **Komlósi Andrea***, **Ülkei Timea***, Fogarasi Erzsébet, Croitoru Mircea Dumitru, Fülöp Ibolya, Domokos Erzsébet, Varga Erzsébet: Profilul polifenolic și activitatea antioxidantă a unor fructe de *Ribes*. Abstract. Buletin de Științe Medicale, 2017, 90, suppl.2, pp.33.
7. Erzsébet Varga, **Bernadett Papp***, Mircea Dumitru Croitoru, Erzsébet Májai Fogarasi, Ibolya Fülöp, Erzsébet Domokos, Eszter Laczkó-Zöld: Phenolic compounds and antioxidant potential of *Crataegus monogyna* fruits from Romania. Abstract at The 21th International Congress Phytopharm, 2-5 July 2017, Graz, Austria. Reviews on Clinical Pharmacology and Drug Therapy, 2017, vol.15, suppl.1. pp.74.

Year 2016:

1. Laczkó-Zöld Eszter, Májai Fogarasi Erzsébet, **Komlósi Andrea***, Ștefănescu Ruxandra, Eșianu Sigrig, Varga Erzsébet: Antioxidant activity and phenolic compounds in fruits of *Prunus spinosa* (blackthorn), Abstract at The National Congress of Pharmacy from Romania, Bucharest, 28th September – 1st October 2016.
2. Varga Erzsébet, Croitoru Mircea Dumitru, Májai Fogarasi Erzsébet, Fülöp Ibolya, Domokos Erzsébet, **Komlósi Andrea***, Laczkó-Zöld Eszter: Identification of polyphenolic compounds from some berries





by RP-HPLC method. Abstract at 22nd International Conference on Chemistry, Timisoara, November 3-6, 2016

3. **Andrea Komlósi***, Eszter Laczkó-Zöld, Erzsébet Májai Fogarasi, Erzsébet Domokos, Mircea Croitoru, Ibolya Fülöp, Erzsébet Varga: Polyphenolic profile and antioxidant activity of blackcurrant (*Ribes nigrum* L.) fruits, Acta Medica Marisiensis, 2016, 62, supl.8, 80.

