

Student research group
on nitric oxide, antioxidants, food and other toxicological and biopharmaceutical issues
Academic year 2025-2026

Acronym: NOAFTB

Permanent members:

Head of the group: Associate professor dr. Croitoru Mircea Dumitru

Associate professor dr. Fülöp Ibolya

Lecturer dr. Májai Erzsébet

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Students currently involved:

PhD student:

Kinda Andrea

Bachelor students:

Kovács Blanka-Alexandra

Gál Anett

Damian Debora

Sándor Lilla

Mentes Réka

Csibi Eszter

Schek Dalma

Research topics:

- measurement of malondialdehyde from different matrices
- quantification of nicotine content in various non-tobacco products; establishing the toxicity differences between traditional and modern smoking methods
- paper-based colorimetric sensor for paraben semi-quantification; photodegradation of parabens
- preparation and study of cyclodextrin-based electrospun nanofibers
- development of new methods for measuring biomarkers of oxidative stress.
- investigation of the scientific validity of claims made by several food supplement manufacturers regarding the antioxidant properties of products currently available on the market.
- addictology

- other ideas brought by the students, because their scientific interest is also considered when a student research program is started

Research infrastructure (relevant items): HPLC-UV, GC-FID

Relevant in extenso ISI articles of the research team (as main authors: first author, corresponding author and last author; *students):

1. Mircea Dumitru Croitoru, Ibolya Fülöp, Maria-Raluca Irimia-Constantin*, Erzsébet Varga, Hajnal Kelemen, Erzsébet Fogarasi, Luana-Maria Faliboga*, The Risk of Using Poppy Seed Tea Made from Several Varieties Available on the Romanian Market, *Acta Medica Marisiensis* 2017, 63(2):62-65
2. Mircea Dumitru Croitoru, Amalia Miklos*, Erzsébet Fogarasi, Maria Margareta Coman*, Ibolya Fülöp, Evaluation of The Ingestion of Parabens During the use Of Dental Care Products by Healthy Human Volunteers, *Farmacia* 2016(4):594-598
3. Croitoru M.D. Fülöp I. Miklos A.* Hosszu B. Tătar V.L. Muntean D.L. Presence of nitrate and nitrite in vegetables grown for self-consumption, *Farmacia* 2015, 63(4): 530- 533
5. Croitoru M.D. Szénási D.A.* Fülöp I. Presence of nitrate and nitrite in cow forage, plasma and milk. *Acta Aliment Hung* 2015, DOI: 10.1556/AAlim.44.2015.1.6, ISSN 1588-2535
6. Croitoru M.D. Muntean D.L. Fülöp I. Modroiu A.* Growing patterns to produce 'nitrate-free' lettuce (*Lactuca sativa*). *Food Addit Contam A* 2015, 32(1): 80-86, ISSN: 1944-0057
7. Fülöp I. Bobeş D.* Croitoru M.D. Barbu C.G. Influence of sugar and sweeteners on mouse body weight, stress-induced body weight changes and life expectancy. *Farmacia* 2014, 62(2): 376-389, ISSN 2065-0019
8. Croitoru M.D. Fülöp I. Pop M.C.* Dergez T. Mitroi B. Dogaru M.T. Tóké B. Nitrones are able to release nitric oxide in aqueous environment under hydroxyl free radical attack. *Nitric Oxide - Biol Ch* 2011, 25: 309-315, ISSN 1089-8603
9. Croitoru M.D. Fülöp I. Kincses Ajtay M. Balogh C.* Dogaru M.T. Direct HPLC-UV determination of cyclamate, saccharine and aspartame from soft drinks. *Acta Aliment Hung* 2011, 40(4): 459-465, ISSN 1588-2535
10. Croitoru M.D. Fülöp I. Kincses Ajtay M. Dudutz G. Crăciun O.* Dogaru M.T. Glutamate determination in foodstuffs with a very simple HPLC-UV method. *Acta Aliment Hung* 2010, 39(2): 239-247, ISSN 1588-2535
11. Bucur Pálma*, Fülöp Ibolya, Sipos Emese, Szabó Zoltán-István. Cyclodextrin-based nanofibers obtained by electrospinning, 2021, 94(2): 118–129
12. Kinda Andrea*, Berze Boglárka-Katalin*, Fogarasi Erzsébet, Sipos Emese, Fülöp Ibolya. Determination of the sun protection factor of sunscreens, *Bulletin of Medical Sciences*, 2022, 95(1), 64-77.

Student's participation in scientific meetings

1. Kiss Anita: Permeation Study of Parabens Through the Skin Using a Franz Diffusion Cell, TDK, 2025
2. Maria Corina Barna. Formation of Nitrite Ion in Homemade Fermented Vegetables, International Congress for Students, Young Doctors and Pharmacists Marisiensis, 17-21 May 2023.
3. Iustina-Elena Ionică. Evaluation of the risk of using Cr(III) food supplements contaminated with Cr(VI), 27-31 March 2019.
4. Nistorescu Nicoleta, Pop Ananda Diana. Difficulties in measuring the amount of cyanide by various methods and their application in the toxicological risk assessment of classic cigarettes versus IQOS system, 27-31 March, 2019.

5. Milan Andreea Maria, Mirica Anca-Maria. Toxicological risks brought by the fashion and clothing materials, Marisiensis, 27-31 march, 2019, Târgu Mureș, Romania
6. Faliboga L. Why oxidative stress is not considered a disease?, Marisiensis 2015.
7. Căliman M. Preventing the recreational use of OTC containing analgesic products, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2015.
8. Zecheru L. Method for screening organic estrogens in biological samples from pregnant women, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2014.
9. Santa DF. Toxicologically important byproducts of nitrate formed in fermented cheese, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2014.
10. Cotârlan R. Nitrones have the potential to become the next generation of antiischemic agents, Marisiensis 2013.
11. Modroiu A. Is it really necessary for nitrate to be present in high amounts in lettuce?, International Scientific Congress for Students, Young Physicians and Pharmacists Marisiensis 2013.
12. Zaharia M. Content of ephedrine and caffeine of some natural herbal supplement recommended for a weight loss program, International Scientific Congress for Students, Young Physicians and Pharmacists, Marisiensis 2012.