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Teaching assistant - Discipline of Environmental and Food Chemistry. Principles of drug analysis

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### Research interest

One of the research interest is studying the exposure pathways to aristolochic acid, one of the potential cofactor in Balkan endemic nephropathy (BEN). The hypotheses that we want to prove is the main route of exposure to aristolochic acid of BEN population by air, dust, aerosols and soil. For more information, please visit: [www.medicalgeology.ro](http://www.medicalgeology.ro).

Another research focus is studying the antitumor and chemopreventive potential of triperpenic compounds (ursolic and oleanolic acids) in melanoma, one of the most important form of skin cancer. Since the major disadvantage of these compounds is low water solubility our team aims to develop new drug formulations with cyclodextrins, and nanoparticles in order to enhance their bioavailability and subsequently to improve the antitumor effect.

### Relevant publications

1. Pavel IZ, Danciu C, **Oprean C**, Dehelean CA, Muntean D, Csuk R, Muntean DM. In Vitro Evaluation of the Antimicrobial Ability and Cytotoxicity on Two Melanoma Cell Lines of a Benzylamide Derivative of Maslinic Acid. *Anal Cell Pathol.* 2016 (2016), Article ID 2787623, 6 pages; <http://dx.doi.org/10.1155/2016/2787623>. (IF: 0.459)
2. **Oprean C**, Mioc M, Csányi E, Ambrus R, Bojin F, Tatu C, Cristea M, Ivan A, Danciu C, Dehelean C, Paunescu V, Soica C. Improvement of ursolic and oleanolic acids' antitumor activity by complexation with hydrophilic cyclodextrins. *Biomed Pharmacother.* 2016 Aug 20;83:1095-1104. doi: 10.1016/j.biopha.2016.08.030. (IF: 2.326)
3. **Oprean C**, Borcan F, Pavel I, Dema A, Danciu C, Soica C, Dehelean C, Nicu A, Ardelean A, Cristea M, Ivan A, Tatu C, Bojin F. *In Vivo* Biological Evaluation of Polyurethane Nanostructures with Ursolic and Oleanolic Acids on Chemically-induced Skin Carcinogenesis. *In Vivo.* 2016 09-10;30(5):633-8. (IF: 0.974)
4. **Oprean C**, Zambori C, Borcan F, Soica C, Zupko I, Minorics R, Bojin F, Ambrus R, Muntean D, Danciu C, Pinzaru IA, Dehelean C, Paunescu V, Tanasie G. Anti-proliferative and antibacterial in vitro evaluation of the polyurethane nanostructures incorporating pentacyclic triterpenes. *Pharm Biol.* 2016 May 9:1-9. (IF: 1.546)
5. Pahonțu E, Paraschivescu C, Ilieș DC, Poirier D, **Oprean C**, Păunescu V, Gulea A, Roșu T, Bratu O. Synthesis and Characterization of Novel Cu(II), Pd(II) and Pt(II) Complexes with 8-Ethyl-2-hydroxytricyclo(7.3.1.0(2,7))tridecan-13-one-thiosemicarbazone: Antimicrobial and in Vitro Antiproliferative Activity. *Molecules.* 2016 May 21;21(5). pii: E674. doi:

- 10.3390/molecules21050674. (IF: 2.465)
6. **Fulias A**, Ledeti I, Vlase G, Vlase T, Soica C, Dehelean C, **Oprean C**, Bojin F, Suta L-M, Bercean V, Amvram S. Thermal degradation, kinetic analysis, and apoptosis induction in human melanoma for oleanolic and ursolic acids. *J Therm Anal Calorim*. 2015, 9, DOI: 10.1007/s10973-015-5052-8. (IF: 2.042)
  7. Danciu C, Borcan F, Soica C, Zupko I, Csányi E, Ambrus R, Muntean D, **Sass C**, Antal D, Toma C, Dehelean C. Polyurethane Microstructures-a Good or Bad *in vitro* Partner for the Isoflavone Genistein?. *Natural Product Communications*, 2015 ; 10 (6) :951-954. (IF: 0.906)
  8. Citu IM, Toma C, Trandafirescu C, Antal D, Zambori C, **Oprean C**, Bojin F, Borcan F, Paunescu V, Lazureanu V. Preparation and Characterization of a Polyurethane Nanocarrier Used for Mixtures of Betulin and Fatty Acids. *Rev Chim*, 2015; 66(3):431-437. (IF: 0.810)
  9. Danciu C, **Oprean C**, Coricovac DE, Andreea C, Cimpean A, Radeke H, Soica C, Dehelean C. Behaviour of four different B16 murine melanoma cell sublines: C57BL/6J skin. *Int J Exp Pathol*, 2015; 96(2):73-80. (IF: 2.168)
  10. Trandafirescu C, Antal D, Soica C, Zupko I, Minorics R, Ambrus R, Borcan F, **Oprean C**, Danciu C, Avram S, Dehelean C, Nita S, Vlaia L. Cyclodextrin Complexes of Oleanolic and Ursolic Acid. Physico-chemical and biological preliminary evaluation. *Rev Chim*, 2014; 65(10): 1163-1167. (IF: 0.810)
  11. Soica C, **Oprean C**, Borcan F, Danciu C, Trandafirescu C, Coricovac D, Crainiceanu Z, Dehelean CA, Bratu T. The synergistic biologic activity of oleanolic and ursolic acids in complex with hydroxypropyl- $\gamma$ -cyclodextrin. *Molecules*. 2014; 19(4):4924-4940. (IF: 2.416)

#### **Affiliations**

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