

# GHEORGHİȚĂ ZBANCIOC

## Research Areas/Interest

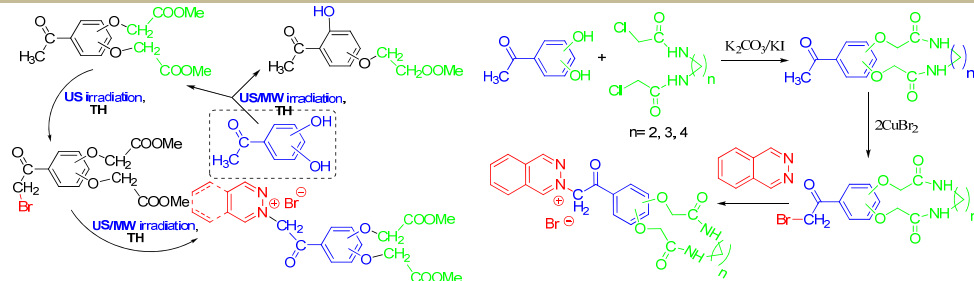
- **Chemistry and Health:** chemistry of the nitrogen heterocyclic and medicinal chemistry;
- **Chemistry and nanosciences:** nitrogen and oxygen macrocycles, supramolecular chemistry;
- **Chemistry and the Environment:** eco-friendly reactions under microwave and ultrasound irradiation.

**Chemistry and Health:** synthesis of biologically active compounds (anticancer, antituberculosis, antimicrobials), growth factors in agriculture, new nanomaterials and nanobiomaterials with heterocyclic skeleton.

**Chemistry and Nanoscience:** synthesis of aza- and oxaza-coronands, synthesis of highly fluorescent materials, obtaining of molecular devices (molecular computers and logic gates) and chemosensors.

**Chemistry and environment:** Eco-friendly reactions under microwave (MW) and ultrasound (US) irradiation. Under M.W and US irradiation the consumed energy decreases considerably, the amount of used solvent also decrease and the reaction conditions are milder.

**Keywords:** heterocycles, diazines, ylides, coronands, azacriptands, microwaves, ultrasounds, cycloadditions, anticancer, antituberculosis, antibiotics, growth factors, fluorescent materials, semiconductors, molecular devices, chemosensors, "environmentally friendly" chemistry.



## Publications (selection)

Mantu, D., Antoci, V., Moldoveanu, C., **Zbancioc, G.**, Mangalagiu, I.I., Hybrid imidazole (benzimidazole) / pyridine (quinoline) derivatives with anticancer and antimycobacterial activity, *Journal Of Enzyme Inhibition And Medicinal Chemistry*, 31, 1-8, **2016**. DOI:10.1080/14756366.2016.1190711

Aricu, A., Ciocarlan, A., Lungu, L., Barba, A., Shova, S., **Zbancioc, G.**, Mangalagiu, I., D'Ambrosio, M., Vornicu, N.: Synthesis, antibacterial and antifungal activities of new drimane sesquiterpenoids with azaheterocyclic units, *Medicinal Chemistry Research*, **2016**. DOI:10.1007/s00044-016-1665-0

**Zbancioc, G.**, Zbancioc, A.M., Mangalagiu, I.I., Ultrasound and microwave assisted synthesis of dihydroxyacetophenone derivatives with or without 1,2-diazine skeleton, *Ultrason. Sonochem.*, 21, 802-811, **2014**.

**Zbancioc, G.**, Florea, O., Jones, P., Mangalagiu, I.I., An efficient and selective way to new highly functionalized coronands or spiro derivatives using ultrasonic irradiation, *Ultrason. Sonochem.*, 19, 399-403, **2012**.

Tucaliuc, R., Cotea, V.V., Moldoveanu, C., **Zbancioc, G.**, Deleanu, C., Jones, P.G., Mangalagiu, I.I., An efficient and selective route to hybrid trifluoromethyl-substituted  $\gamma$ -lactones or fused nitrogen derivatives via cascade reactions, *Tetrahedron Lett.*, 52, 6439-6442, **2011**.

Kuchkova, K., Aricu, A., Barba, A., Vlad, P., Shova, S., Secara, E., Ungur, N., **Zbancioc, G.**, Mangalagiu, I., An Efficient and Straightforward Method to New Organic Compounds: Homodrimane Sesquiterpenoids with Diazine Units, *Synlett*, 24, 697-700, **2013**. doi: 10.1055/s-0032-1318253

**Zbancioc, G.**, Mangalagiu, I., Pyrrolopyridazine derivatives as blue organic luminophores: synthesis and properties. Part 2, *Tetrahedron*, 66, 278-282, **2010**. doi:10.1016/j.tet.2009.10.110.



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**Organic chemistry**

**Heterocyclic chemistry**

**Associate professor – 2012.**

**PhD studies –**

„Alexandru Ioan Cuza” University of Iași, 2006.

**Research Internships**

**March, 2006 –** study of specialization in GC-MS field, at Organic Chemistry Department, University of Konstanz, Germany.

**November 2014 –**

DAAD scholarship at University of Konstanz, Germany and I worked in group research of Dr. Thomas Huhn

**Awards obtained –**

“**Silver Medal**” and “**Excellence Diploma**” at the conference Euroinvent 2011, Iasi, Romania.

“**Gold Medal**” at the conference Euroinvent 2014, Iasi, Romania.

“**Gold Medal**” at the conference Euroinvent 2015, Iasi, Romania.