

VASILE ROBERT GRĂDINARU

Research areas

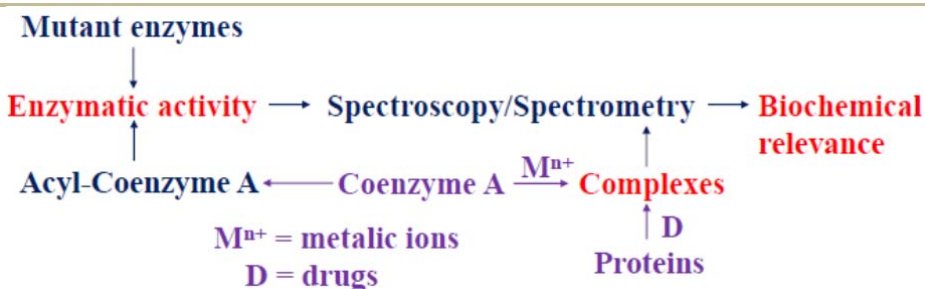
- **Enzymology:** solving the mechanism of enzymatic reactions, to establish the role of enzyme's active site amino acids;
- **Biochemistry si toxicology:** the role of some biological active compounds in counteracting/transport of toxic compounds/ions;
- **Spectroscopy:** study of biomolecule-drug or biomolecule-metal ion interaction.

Enzymology: biosynthesis of native and mutant enzymes, enzyme separation using affinity chromatography and evaluation of enzymatic activity. Experimental data will be correlated with theoretical models.

Biochemistry and toxicology: toxicity studies of compounds or ions over microorganisms (yeast etc), counteracting toxic effects using complexation agents

Spectroscopy: interaction studies of anticancer compounds with proteins. Interaction study of fluorescent molecule with DNA. Protein fluorescence quenching by metal ions (Hg^{2+} , Au^{3+}) or organic molecule (nitrophenols, methotrexate). To establish new methods to assess the enzymatic activity of acyl-CoA dehydrogenases using fluorescent ligands or acceptors.

Keywords: enzyme, protein, vitamins, coenzyme A, heavy metals, toxicity, microbiology, UV-VIS spectroscopy, fluorescence.



Publications (selection)

Drochioiu, G., Ciobanu, C.I., Băncilă, S., Ion, L., Petre A.B., Andrieș, C., Grădinaru, R.V. and Murariu, M., Ultrasound-based protein determination in maize seeds, *Ultrasonics Sonochemistry*, 29, 93-103, **2016**.

Grădinaru, R.V. and Hans-Jurgen, A. Probing the Extracellular Access Channel of the Na,K-ATPase, *Biochemistry*, 54 (15), 2508-2519, **2015**.

Zaharia, M. and Grădinaru, R. Interaction of Human Hemoglobin with Methotrexate, *Journal of Applied Spectroscopy*, 82(2), 285-292, **2015**.

Grădinaru, R., Ionas, A., Pui, A., Zbancioc, G., Drochioiu, G. Interaction of inorganic mercury with CoA-SH and acyl-CoAs, *Biometals*, 24, 1115-1121, **2011**.

Hansen, S. H., Andersen, M. L., Cornett, C., Grădinaru, R., Grunnet, N., A role for taurine in mitochondrial function, *Journal of Biomedical Science*, 17 (Suppl.): S23, 1-8, **2010**.



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Enzymology Biochemistry

Member of
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PhD – Univ. Konstanz,
Germany, 2005.
Postdoc Position –
Univ. Freiburg,
Germania, 2006

Invited researcher -
Univ. Konstanz, 2013

**Erasmus teaching
mobility** - Univ.
Chemical Technology
and metalurgy, Sofia,
2014