## Project summary

The research project is focused on identification of the cause of the pharmacokinetic variability of antiepileptic and immunosuppressants, quantification of the effects of pharmacokinetic variability factors using mathematical models, the application of the developed population pharmacokinetic-pharmacodynamic models in order to optimize the individual dosing regimen. Also, the specific investigation is oriented to the examination and classification of cardiovascular drugs interactions and the identification of therapy problems in older patients. The results are focused on the optimization of therapy in the individual patient and the evaluation of the principles of rational pharmacotherapy.

Keywords: population pharmacokinetic-pharmacodynamic modeling, pharmacokinetic variability, drug interactions

## Sažetak projekta OI 175023

U okviru projekta istraživanja su usmerena na identifikaciju uzroka farmakokinetičke varijabilnosti aniepileptika i imunosupresiva, kvantifikaciji uticaja fakora farmakokinetičke varijabilnosti primenom matematičkog modela, primeni razvijenih populacionih farmakokinetičko-farmakodinamičkih modela u cilju optimizacije individualnog režima doziranja. Takođe, posebna istraživanja su posvećena ispitivanju i klasifikaciji interakcija kardiovaskularnih lekova i identifikaciji problema koji prate primenu lekova kod starijih pacijenata. Rezultati ispitivanja su usmereni ka optimizaciji terapije kod individualnog pacijenta i proceni principa racionalne farmakoterapije.

Ključne reči: populacioni farmakokinetičko-farmakodinamički modeli, farmakokinetička varijabilnost, interakcije lekova

## Selected results/Odabrani rezultati

Golubović B, Vučićević K, Radivojević D, Kovačević SV, Prostran M, Miljković B. Exploring sirolimus pharmacokinetic variability using data available from the routine clinical care of renal transplant patients - population pharmacokinetic approach. Journal of Medical Biochemistry doi.org/10.2478/jomb-2018-0030

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