Results: The regression analysis was applied to correlate the values of binding energy with structure descriptors (logP, MW, 2D, 3D, Hb-A and Hb-D) for the compounds. Statistically significant correlation (r) was obtained between binding energy values and MW (r=-0.944), 3D (r=-0.897) and logP (r=-0.71).
Conclusion: The obtained results suggested that MW, 3D and logP values were important structure descriptors for studying sulfonamide–HSA interaction.

Acknowledgement: *I wish to express my gratitude and appreciation to Jolanta Sochacka, Ph.D., whose help, suggestions and encouragement have enabled me to do this project.*

Abstract ID: **159**

The effect of influence by heavy metals on the functional activity of the kidneys in different conditions of photoperiod

Authors: *Shumko N., Mycko V., Vepryuk Yu., Ali Abuzaid*
Mentors: *Shumko N. M.*
Affiliation: *Bukovinian State Medical University, Medical Biology, Genetics and Pharmaceutical Botany*
Abstract Keywords: *xenobiotic, kidneys, pineal gland*

Introduction: Influence of heavy metals on the human body leads to the development and progression of pathological changes. Xenobiotics such as aluminum and lead have significant nephrotoxic action and violate the significant functional changes in activity of this organ. In recent years the health of the population of Ukraine is much worse, due to anthropological pollution, in particular, compounds of aluminum, of which subjected every day each of us.
Aim: investigate the effect of influence by heavy metals on the functional activity of the kidneys in different conditions of photoperiod.
Material and Methods: In experiments on 96 mature and immature males nonlinear white rats studied the influence of hypo - and hyperfunction of pineal gland and the effect of 14 days chlorinated compounds of aluminum on renal function parameters.
Results: Found that investigated environmental load accompanied nephrotoxic effects on the kidneys, characterized by the development of proteinuria and loss of sodium in the urine due to damage of tubular nephron.
Conclusion: Pineal gland hypofunction causes more significant nephrotoxic effect of aluminum salts in the kidneys of mature rats with significant proteinuria and a manifestation of a syndrome of loss of sodium in the urine, and under condition of pineal gland hyperfunction nephrotoxic effects of aluminum salts were less significant, probably due to higher levels of antioxidant "hormone of darkness" – melatonin.

Acknowledgement: *I want to thank my co-authors for the interesting collaboration and experience.*