APSTIPRINĀTS- **Rīgas Stradiņa universitātes** Cilvēka fizioloģijas un bioķīmijas katedras
http://aris.gusc.lv/2021MFArzRudensBkurss.pdf sanāksme 05.07.2021. protokola Nr. 24-12-1/1/2021
Study course 2nd semester room A406 "Experimental Research in Medical Chemistry ".

1 13:15, October 1. **Install applications on** *Your computer: Raswin2.6,ISIS Draw4,ChemScape, FireFo x3.5.5, Mage* http://aris.gusc.lv/index.html;For Windows in adress: http://aris.gusc.lv/InstallChemistryPC.html and MacOSX MacBook Virtual Box:http://aris.gusc.lv/InstallChemistryMac.html runing Windows 10 **Install applications***Raswin2.6,ISISDraw4,ChemScape,FireFox3.5.5,Mage* http://aris.gusc.lv/Inst170712.pdf Computer preparation for molecules experimental research. Instalalation. **Medical** Bio**Chemistry** data base **htdocs** building and structure. Computer and FireFox3.5.5 configuration for molecular coordinates experimental research.

Nr. Week Lectures (October 4st–October 11h), 13:15-14:45 ; 14:45-16:15

2.	$14^{\underline{45}}$ 1. Octob	http://aris.gusc.lv/ChemFiles/Aquaporins/WCPsAQPsIUBMBlife09/AQP1-11.pdf**;Aquaporins** cell membranes crosing **H_2O**, **O_2**, **NO** transport proteins. The osmosis against osmolar concentration gradient: AquaPorin1-0.htm; in human body.task: /Research/Aquaporine0.pdf;/Research/Aquaporine0.pdf
3.	$12^{\underline{00}}$;5 Octob	**Carbonic Anhydrase CA** ENZYME http://aris.gusc.lv/ChemFiles/CA/CAnhydraseII.htm physiological pH=7.36 determinant in blood::http://aris.gusc.lv/06Daugavpils/Research/CA.pdf
4.	13:15 8. Octob	**O_2**, H^+, HCO_3^- shuttles Hemoglobin, Myoglobin molecules. Triplet **•:O≡:::≡O:•** oxygen. http://aris.gusc.lv/06Daugavpils/Research/HromoProteinsA.pdf; http://aris.gusc.lv/ChemFiles/hemoglobEricMarzUMas/INDEX.htm oxygen **O_2** and carbon dioxide **CO_2** exchange ENZYMES in human organism Hemoglobin, CA:

Practical class topic at room Nr A406 $12^{\underline{00}}$÷$14^{\underline{15}}$,

1.	$14^{\underline{45}}$ 8. Octob	Tyr357-Heme coordinated iron(III) CATALASE **HOMEOSTASIS** activity E_a in human organism geometric factor **A**=0,13: http://aris.gusc.lv/06Daugavpils/Research/CATALASE.pdf http://aris.gusc.lv/ChemFiles/catalaseKenyon/cat1.htm
2.	$12^{\underline{00}}$ 12 Octob	Cyclo oxigenase:/Research/COX.pdf:Singlet **•::O-:-O::•** oxygen Eicosatetraenoic acid http://aris.gusc.lv/06Daugavpils/Research/COXLab14.pdf; sorce of: **prostaglandins PGs**, **prostacyclins PGIs**, **thromboxanes TXs** and **leukotrienes LTs** inhibitors: aspirin, warfarin, tylenol, paracetamol, ibuprofen: http://aris.gusc.lv/ChemFiles/CycloOxigenase/cycox.html
3.	$12^{\underline{00}}$19 Octob	/Research/NADalcoholDeHydr.pdf:ENZYME **alcohol dehydrogenase ADH**. B3 vitamin tuneling hydride ion **H^-** dissociates proton **H^+**:/ChemFiles/AlhoDeHydrogenase/NadDehydrogenase.htm
4.	$12^{\underline{00}}$ 9. Nov	/Research/PhosphLipidBilayerMembranB.doc Cell **membrane** structure of human physiology: http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/Membrane/membrane/Membrane.html Cholesterol 0,9÷1/1 phospholipid ratio in human erytrocites:/Research/LipdBiLayerMembran.doc http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/Cholest5ene3-20diol/Cholesterol5Membran.html START-STARD1-13:http://aris.gusc.lv/06Daugavpils/Research//Start.doc: http://aris.gusc.lv/ChemFiles/START/START.htm
5.	$12^{\underline{00}}$ 16. Nov	http://aris.gusc.lv/06Daugavpils/Research/HSA.docHuman serum albumin **HSA HOMEOSTASIS** physiology research with Medical Chemistry. Load in **HSA** water isoluble 7 fatty acids, Hem, bilirubin,aspirin,warfarin, ibuprofen,indometacin:http://aris.gusc.lv/ChemFiles/Albumin/cycox.html
6.	$12^{\underline{00}}$ 14. Dec	http://aris.gusc.lv/06Daugavpils/Research/AndrogenReceptor.doc androgen nuclear receptor: http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/AndrogenReceptor/Androgen1.htm http://aris.gusc.lv/ChemFiles/BilipidCholine/Membrane/MineraloCorticoidReceptor/NR-A-G-P-R2AA2.htm Mineral corticoid receptors: http://aris.gusc.lv/06Daugavpils/Research/MinerCorticoidAldosteron.pdf
7.	$12^{\underline{00}}$ 21. Dec	Genom **HOMEOSTASIS** instruments DNA methyl transferases: DNMT1HhaI;DNMT3GC ≡CG http://aris.gusc.lv/ChemFiles/hhaiDNAmethylCtransferKeny/C5MethTransferGoodSell11/MethylTrans11.doc Methylation Protein **DNMT3** experimental research task:/Research/DNAmethylTransferase.doc; **Zn^{2+}** ions DNA Medical Chemistry zinc finger motifs on DNA strands: /hhaiDNAmethylCtransferKeny/methmast.htm
8.	$12^{\underline{00}}$ 28. Dec	http://aris.gusc.lv/ChemFiles/Aquaporins/AquaPorin1.htm **Aquaporins** cell membranes crosing **H_2O**, **O_2**, **NO** transport proteins. The osmosis against osmolar concentration gradient in human body.task:/Research/Aquaporine0.pdf;/Research/Aquaporine1.pdf

RSU dep. Human Physiology and Biochemistry - Assistant Professor, Āris Kaksis.

SSNMFv20_CFUBK_025_B1, SSNMFv21_CFUBK_025_B1