**Seminar Topics for II year Medical Faculty English Division students**

**Summer semester - academic year 2018/2019**

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| **Topic** |
| 1. Metabolism of glucose and its transport - GLUT-transporters. |
| 2. Regulation of glycolysis and fates of pyruvate in connections to the type and conditions of the cells. |
| 3. Sources of substrates for gluconeogenesis; comparison of the process with glycolysis. |
| 4. Cori and alanine cycle. |
| 5. Allosteric and hormonal regulation of glycogen metabolism. . |
| 6. Metabolism of selected isomers of glucose. |
| 7. The course and biomedical significance of hexose monophosphate shunt. |
| 8. Hormonal regulation of carbohydrate metabolism. Health implications |
| 9. . Metabolism of phenylalanine and tyrosine – diversity of metabolic pathways and biologically active products |
| 10. Decarboxylation and biologically active amines |
| 11. Metabolism of arginine and biomedical role of resulting products. |
| 12. . Degradation of heme and biomedical significance of the process. |
| 13. Functions of nucleotides. |
| 14. Origins of uric acid and its biomedical significance. |
| 15. Metabolism of calcium and phosphate. |
| 16. Metabolism of iron. |
| 17. Endogenous regulators of metabolic processes |
| 18. Biochemistry of muscle contraction. |
| 19. Synthesis of collagen and its disturbances. |
| 20. .Specificity of biochemical processes in the liver. |
| 21. The role of the liver in xenobiotics metabolism |