**Academician Octavian POPESCU**

In over 40 years of scientific research activity, Prof. Octavian POPESCU has approached various research topics from several fields (molecular biology, cell biology, biochemistry, biophysics, genetics, molecular biotechnology, biology of embryonic development):

1. Human erythrocyte membrane proteins and facilitated water diffusion.

2. Protoglycan-mediated cell adhesion and cell recognition.

3. Identification and characterization of a new class of new cell adhesion molecules: GLICONECTINS.

4. Atomic force microscopy (AFM) and cell adhesion.

5. Nanomanipulation of biological macromolecules with the help of AFM.

6. Synthesis of hybrid proteins (human-bacteria) in *Escherichia coli*.

7. Cloning and expression of genes from eukaryotic or prokaryotic microorganisms.

8. Structural and functional genomics.

9. Human genotyping.

10. Taxonomy and molecular phylogeny.

11. Retrotransposable genetic elements.

12. Paleogenetics.

13. Biomaterials and biocompatibility.

14. Nanotechnology and bionanotechnology.

15. Molecular embryology.

16. Sensoric and biosensoric.

17. Extremophile microbiology.

Cele mai importante rezultate ale activităţii sale ştiinţifice au fost publicate în reviste de largă circulaţie ca: *Nature, Science, Proceedings of the National Academy of Sciences of the United States of America, Biosensors & Bioelectronics, Genome Biology and Evolution, Scientific Reports, Molecular Biology and Evolution, Analytical Chemistry, Journal of Biological Chemistry, Journal of Molecular Biology, Biochemistry (USA)*, *European Journal of Immunology*, *PLoS One*, *Thrombosis and Haemostasis*, *Molecular Pharmacology*, *Biochimie*, *Nanotechnology*, *Nanoscale*, *Journal of Cellular Biochemistry*, *Electrophoresis*, *Journal of Membrane Biology*, *Muscle & Nerve*, *FEBS Letters*, *Biochimica et Biophysica Acta*, *European Journal of Cell Biology*, *Journal of Molecular Recognition*, *Cell Biology International Reports* sau au fost prezentate la diferite manifestări ştiinţifice naţionale şi internaţionale.

**Thematic areas**: microbiology, molecular biology, genetics, general biology.

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