Tematica pentru concursul pe postul de Conferentiar poz. 13 din statul de functii al departamentului de Stiinte Preclinice II.

1. Transport phenomena in solutions of biological interest. Diffusion, osmosis and their role in the processes in the organism.
2.Cellular membrane – structure, properties. Passive and active transport through the cell membrane.
3. Cellular bioelectrogenesis. The biophysics of the nervous impulse transmission.
4.The bioelectrogenesis of the tissues and organs. Methods for exploring the electrical activity of the organs.
5.The interaction of the electromagnetic radiation with the living matter. The principles of some diagnosis and treatment methods in medicine.
5a. Ionising radiations and their interaction with the living matter. Methods of diagnosis using X-rays: radiography, computerized tomography, positron emission tomography.
5b. Principles of Nuclear magnetic resonance; magnetic resonance imaging; magnetic resonance spectroscopy; applications in medicine.
5c. Ultrasounds, their interaction with the living matter, biomedical applications.

Bibliography:

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5. P Jezzard, PM Matthews, SM Smith, Functional MRI :An Introduction to Methods, Oxford University Press, 2001
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7. E. A. Ash, C. Hill (eds.), Acoustical Imaging, vol. 12, Plenum, NY 1983