



Editorial

Biophysics: Concepts and Fields

There is an idiom that “biophysicist is who discusses about biology when meets physicist, talks about physics when meets biologist and says joke when meets another biophysicist”. This idiom points to multidisciplinary nature of biophysics but what really is the biophysics? And who is the biophysicist? Biophysics was defined as: "that branch of knowledge that applies the principles of physics and chemistry and the methods of mathematical analysis and computer modeling to understand how the mechanisms of biological systems work" in homepage of Biophysical Society¹. Biophysics may be thought of as the central circle in a two-dimensional array of overlapping circles, which include physics, chemistry, physiology, and general biology.²

Two wings of Biophysics are Biology and physics. Organisms are made of biomaterials, which can be studied by physical laws, since physical principles and laws hold from microscopic level to macroscopic level. Biophysicist selects a part of biological problems that are pliable to interpret by physical principles and then formulate hypotheses that can be tested by experiment². Historically, bioluminescence can be considered among the earliest biophysical phenomena. The modern biophysics appeared by discovering of molecular structure of myoglobin and deoxyribonucleic acid (DNA). There is no doubt that Biophysics as a multidisciplinary science covers wide spectrum of subjects as follows: Instrumental biophysics, Radiation Biophysics and radiobiology, Structural biology, Physiological biophysics, bio-cybernetics, Membrane Biophysics, Molecular biophysics, Bioenergetics, Mathematical and theoretical biophysics and Biophysical Chemistry. And the final question, do you still believe the above idiom about the biophysicist?

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¹ <http://www.biophysics.org/>

² <http://www.britannica.com/>