

Foreword

We are glad to present you a new issue for our “Journal of Biomimetics, Biomaterials, and Tissue Engineering”. In this issue, the results of the latest scientific and experimental researches in the field of Biomimetics, Biomaterials, and technologies of Tissue Engineering are collected.

Many readers of our journal may ask questions concerning the feasibility of merging research materials of Biomimetics and Biomedicine, which will undoubtedly include Biomaterials and Tissue engineering, into one periodical. Let me briefly explain our position on one particular example.

Biomimetics (bionics), as it is known, uses properties, structures and functional activities of living biological systems in technical devices or systems. That generally involves creating and using computer models of a biological system, its part or a definite biological process.

In the field of development and research of biomaterials, the main issues are their biocompatibility and biofunctionality. Experimental studies of these properties on the phase of “*in vitro*” do not usually cause many difficulties, but exclude the possibility of adequate verification in the context of a specific holistic biological system. “*In vivo*” phase aims to solve this problem, but we are all aware of its problems and the main one being the test scantiness in terms of a real biological system.

In this regard, for example, embedding the phase of computer simulation in real time, between “*in vitro*” and “*in vivo*” looks very promising at the present level of science.

With the development of comprehensive, aggregated models of biological systems and processes as well as process models to create biomaterials it can be assumed that the phase of “*in vitro*” can be replaced with the stage of computer simulation in real time, which in turn would take away many research restrictions on the phase of “*in vivo*”.

The same holds true in the field of Tissue Engineering. And further has undoubtedly potential use for Biomaterials and technologies of Tissue Engineering in the creation process of bionic systems.

We are guided by similar ideas while creating regular issues of our journal. And we are grateful to all the authors for their scientific papers.

Special gratitude from us is to all the reviewers for their efficient and invaluable assistance in the formation of this volume of the “Journal of Biomimetics, Biomaterials, and Tissue Engineering”.

We hope that our journal will be useful in your scientific work.

Dr. Stanislav Kolisnychenko,
JBBTE Managing Director,
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