

INNOVATIVE BIOSYSTEMS AND BIOENGINEERING

International scientific e-journal

Vol. 3 · No. 3

2019

Founded in November, 2017

Editor-in-chief –
Alexey Dugan

Deputy editor-in-chief –
Alexander Galkin

In the issue:

Applied Biology

Biomedicine

Biotechnology and
Bioengineering

Biophysics and
Bioinformatics

Editorial office:
building 4, Av. Peremogy, 37,
Kyiv, 03056,
National Technical University of Ukraine
“Igor Sikorsky Kyiv Polytechnic Institute”

E-mail: ibb@kpi.ua
<http://ibb.kpi.ua>

Founder – National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

Advised by Academic Council of National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute", Protocol No. 8, on September 9, 2019
Published on September 27, 2019

Editorial Board in Applied Biology

Larysa Bondarenko (Ukraine), Alexander Galkin (Ukraine), Yuri Gorgo (Ukraine), Elena Kashuba (Sweden), Irina Leneva (Russia), Olga Limanskaya (Ukraine), Ievgen Nastenko (Ukraine), Rustem Omarov (Kazakhstan), Vladimir Shkumatov (Belarus), Victoria Tsygankova (Ukraine), Alexander Yermishin (Belarus)

Editorial Board in Biomedicine

Ivars Kalvinsh (Latvia), Elena Kashuba (Sweden), Vitaliy Maksymenko (Ukraine), Ievgen Nastenko (Ukraine), Svetlana Rybalko (Ukraine), Vladimir Shirobokov (Ukraine), Vladimir Shkumatov (Belarus), Walery Zukow (Poland)

Editorial Board in Biotechnology and Bioengineering

Svitlana Gorobets (Ukraine), Elena Karpenko (Ukraine), Grzegorz Łagód (Poland), Belur Prasanna (India), Henryk Sobczuk (Poland), Oleksandr Tashyrev (Ukraine), Tetiana Todosiichuk (Ukraine)

Editorial Board in Physics of Biological Systems and Bioinformatics

Ol'ha Brovarets (Ukraine), Marcelli Koralewski (Poland), Oksana Gorobets (Ukraine), Svitlana Gorobets (Ukraine), Ievgen Nastenko (Ukraine), Alexander Ogurtsov (Ukraine), Vincenzo Valenzi (Italy), Vitalii Zablotskii (Czech Republic)

Editorial Board in Chemistry of Biological Systems

Natalia Golub (Ukraine), Ivars Kalvinsh (Latvia), Elena Karpenko (Ukraine), Yevgeniy Kuzminskiy (Ukraine), Belur Prasanna (India), Victoria Tsygankova (Ukraine), Vladimir Shkumatov (Belarus)

Table of Contents

Natochii T.O., Motronenko V.V.

Comparative Characteristics of Biotechnological Approaches to Obtaining Recombinant Human Cytokines in Bacterial Expressing Systems.....

128

Prokopiuk V.Yu., Hloba N.S., Prokopiuk O.S., Schedrov A.O., Musatova I.B.

Characterization of Placental Mesenchymal Stem Cells Spheroids after Generation, Hypothermic and Subnormothermic Storage.....

146

Nesteruk I.G.

Maximal Speed of Underwater Locomotion.....

152

Likhodiievskyi V.V.

Early Experimental Results of Nerve Gap Bridging with Silicon Microwires.....

168

Fokina A.V., Satarova T.M., Derkach K.V.

The Effect of the Mineral and Carbohydrate Composition of the Nutrient Medium on the Efficiency of Microclonal Propagation of *Origanum Vulgare L. In Vitro*.....

176

Yurchenko A.V., Golub N.B., Zhu Y.

Lignin as the Basis for Obtaining Bioplastics.....

185