ICNBME-2015

3rd International Conference on Nanotechnologies and Biomedical Engineering

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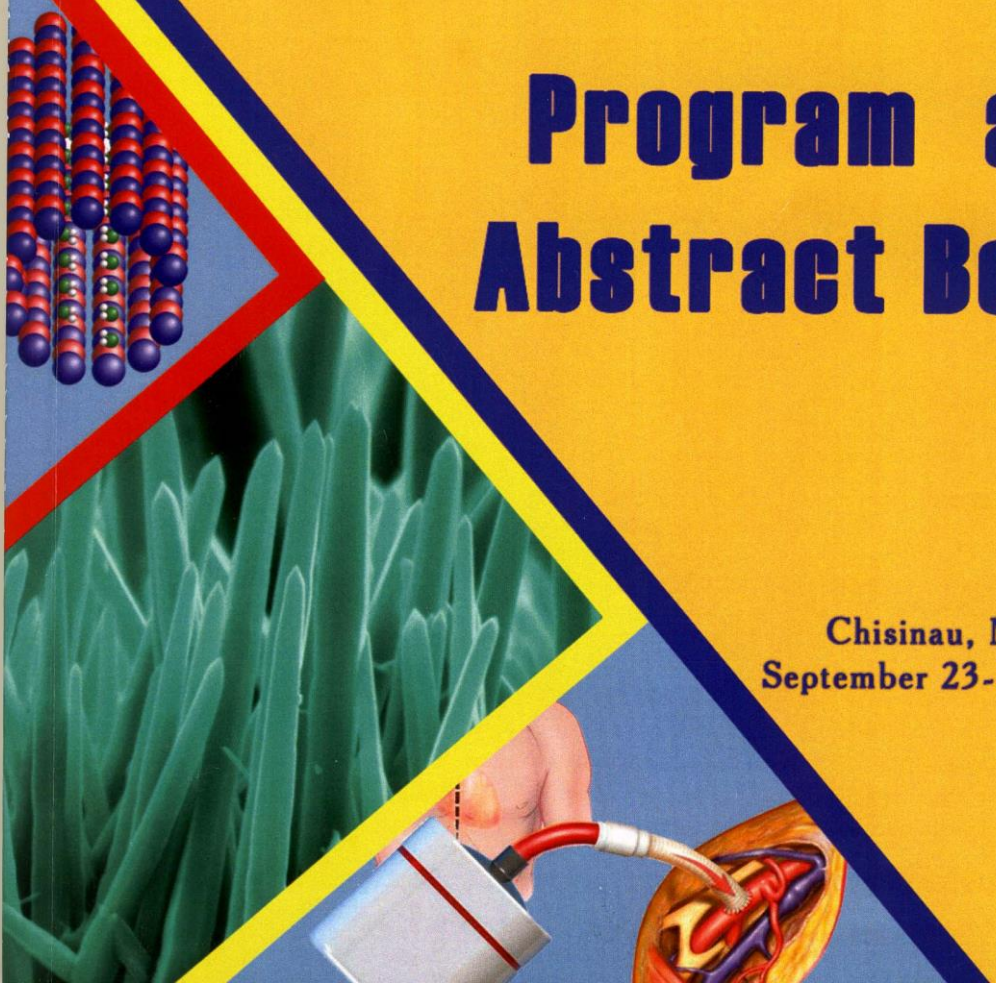

Program and Abstract Book

Chisinau, Moldova,
September 23-25, 2015

S2-1.2
Nanofibers for Tissue Engineering and Regenerative Medicine

N. Bölgen[1] and A. Vaseashta[2]
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Electrospinning is a process in which polymer fibers are produced with diameters down to the nanometer range through the action of an electric field imposed on a polymer solution/melt. Distinct properties that make electrospun nanofibrous materials unique are their high surface area, porosity, tensile strength and high extensibility. Indeed the size of the fibers down to nanometer scale make the final structures unique. And since the structure of the nanofibers is very similar to the extracellular matrix, many applications of them are proposed to be used in biomedicine especially for tissue engineering applications. Many polymers were used to prepare electrospun nanofibers including natural and synthetic ones. Poly(ε-caprolactone) (PCL) was used extensively in the tissue engineering field as a synthetic polymer and alternative to natural polymers. The relatively inexpensive production routes, FDA approval, tailorable biodegradability, biocompatibility and easy manipulation make this polymer promising for electrospinning applications. Therefore PCL based electrospun matrices were used in several tissue engineering attempts including skin, bone, vascular and nerve regeneration. This review summarizes the use of electrospun PCL nanofibers in tissue engineering and regenerative medicine applications.

S2-1.3
Antimicrobial Reagents as Functional Finishing for Textiles Intended for Biomedical Applications. II. Metals and Metallic Compounds: Silver

F. Tanasa and M. Zanoaga
"Petru Poni" Institute of Macromolecular Chemistry, Romanian Academy, Iasi, Romania

Silver is known to exhibit strong toxicity towards a wide range of microorganisms and, therefore, it has been intensively and extensively used for bactericide purposes. This article reviews some of the most interesting studies concerning Ag biocide activity, the mechanism of action and the corresponding finishing techniques employed in order to obtain Ag-functionalized textiles for biomedical applications.

16[30] **S1-4.24 Optical Properties of ZnAl2Se4 Crystals**

A. Tiron[1], N. Syrbu[1] and V. Zalamai[2]
[1]*Technical University of Moldova, Chisinau, Moldova*
[2]*Institute of Applied Physics, Academy of Sciences of Moldova, Chisinau, Moldova*

16[45] **S1-4.25 PbTe Nanoparticles Obtaining and Studies of Their Electrical Properties**

V. Nikorich[1], P. Ketrush[1], A. Nikorich[2], A.Todosichiuc[2]
[1]*Department of Physics and Engineering, Moldova State University, Chisinau, Moldova*
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SECTION S2
Bio-nanotechnologies and Biomaterials.
11:00-17:00 *Room 4*

Co-chairs: ***Nimet Bolgen, Dorina Creanga***

11[00] **S2-1.1 Biocompatible SPIONs with Superoxid Dismutase/Catalase Immobilized for Cardiovascular Applications (invited)**

L. Lacramioara[1], A. Diaconu[2], M. Butnaru[1] and L. Verestiuc[1]
[1]*Gr.T.Popa University of Medicine and Pharmacy, Faculty of Medical Bioengineering, Iasi, Romania,*
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11[20] **S2-1.2 Nanofibers for Tissue Engineering and Regenerative Medicine (Invited)**

N. Bölgen[1] and A. Vaseashta[2]
[1]*Chemical Engineering Department, Mersin University, Mersin, Turkey*
[2]*Institute for Advanced Sciences Convergence, and Int'l Clean Water Institute, NUARI, Herndon, VA USA*

11[40] **S2-1.3 Antimicrobial Reagents as Functional Finishing for Textiles Intended for Biomedical Applications. II. Metals and Metallic Compounds: Silver**

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11[55] **S2-1.4 Antimicrobial Reagents as Functional Finishing for Textiles Intended for Biomedical Applications. III. Other Metals and Metallic Compounds**

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