Alexander Melerzanov, Transl Med 2015, 5:4
http://dx.doi.org/10.4172/2161-1025.C1.015

OMICS International
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4th International Conference on
Translational Medicine
October 26-28, 2015 Baltimore, USA

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Translational medicine-our approach

Usual perception of the translational medicine is based on OMICs technologies approach to the personalized medicine. In our center we make an attempt to expand the understanding of transla-tional medicine towards mathematical modelling of circulatory system as another base for per-sonalized treatment. Modern visualization means combined with effective algorithms of auto-mated processing of diagnostics data allow construction of individual computational grids for surgery planning and treatment optimization. Development and implementation into clinical practice of devices with S C "hardware-software systems" minimizes diagnostic invasion by us-ing math modelling of the blood stream and cardiac workload. This way we plan to achieve as better treatment outcome including surgery itself and follow up protocols and as a next step we see development of the individualized implanted devices based on stretchable electronics. For that work we have established a translational medicine department. Department consists of phy-sicians and scientists joint by two leading Russian technical and medical universities [Moscow Institute of Physics and Technology (State Research University) and First Moscow State Medical University named after I M Sechenov respectively] and George Washington University. The plan of Ministry of Healthcare of Russian Federation is to establish a chain of translational medicine centers. We are the first one due to the fact the cardio-circulatory diseases are by far (58%) over-come all other reasons for mortality in Russia. Implementation of translational medicine into practical healthcare became possible after the new law acceptance. New law allows medical pro-fessionals to apply novel scientific approaches to practice based on the decision of the ethic committee with funding from the Ministry of Healthcare. New approach will change the existing approach to interventional angiology and will have a pronounced medical care quality improve-ment; so an economical effect.

Biography

Alexander Melerzanov graduated from Moscow Medical Academy with MD Degree in 1994 completed his PhD in 2010. He is a Dean of Biological and Medical Physics of Moscow Institute of Physics and Technology (top Russian technical university); holds positions of a Medical Director of a Life Science Center of MIPT and consulting physician for Hospital #1 of Presidential Affairs. He has published more than 20 papers in reputed journals and has been serving as an expert for medical education and preclinical trials commission of Ministry of Education and Science and as an expert for the Scientific council of MIPT

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