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UK-Russia  
Young Medics Association

**Sechenov University  
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UK-Russia Young Medics Association**

# **UK-Russia Young Medics Conference**

## **Book of Abstracts**

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UK-Russia Young Medics Association together with Sechenov University and British Embassy Moscow are convening a two-day scientific and educational meeting to showcase the results of a joint effort aimed at facilitating bilateral research and educational exchanges between Russian and British universities.

The meeting will be a unique forum that emphasises discussion and collaboration between medical students, young doctors, early career biomedical researchers and educators of the two countries. One of the key aims will be to create a platform where students and young scientists could present the results of their research and engage in sharing best scientific and educational practices between Russia and the UK.

This book contains abstracts written by the event participants; the projects will be presented during oral and poster sessions. We have divided the abstracts broadly into clinical and basic research subjects. The works have been carefully selected by our panel members and we hope you will enjoy reading them and find a moment to visit the respective sessions.

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## **Morpho-functional approach for zinc succinate toxic effect evaluation in rat cerebral cortex**

Gennadii Piavchenko<sup>1,5\*</sup>, Aleksander Alekseev<sup>3</sup>, Evgenia Seryogina<sup>3</sup>,  
Olga Stelmashchuk<sup>3</sup>, Evgeny Zherebtsov<sup>3,4</sup>, Andrey Dunaev<sup>3</sup>, Yuri Volkov<sup>1,2</sup>,  
Sergey Kuznetsov<sup>1</sup>

<sup>1</sup>*Sechenov University, Russia;* <sup>2</sup>*Trinity College Dublin, Ireland;*

<sup>3</sup>*Orel State University, Russia;* <sup>4</sup>*University of Oulu, Finland;*

<sup>5</sup>*Pharmaceutical Scientific Enterprise "Retinoids", Russia*

\*[gennadii.piavchenko@yandex.ru](mailto:gennadii.piavchenko@yandex.ru)

### **Abstract**

The development of neurodegenerative diseases may lead to an increase of the zinc succinate concentration. The purpose of this study was to measure the structural and functional changes in the 2 months male Wistar rats (n = 6 in a group) after 1 month of intragastric zinc succinate injection (100 mg/kg). The study was performed with GLP principles in the Center for Preclinical Research (Retinoids, Russia). The study of rat motor activity was made on Laboras (Metris, the Netherlands), which is a system for behavioral responses recognition and analyze. After the anesthesia (Zoletil 100, Vibrac, France) the fluorescence spectroscopy measurement with laser diagnostic complex LAKK-M (Lazma, Russia) was made. Signals were recorded on the surface of the rat motor cortex at 365 and 450 nm wavelengths to detect NADH and FAD excitation fluorescence signals. The animals were euthanized by lethal dose of Zoletil 100, the brain was fixed in Carnoy's fluid and embedded in paraffin. Slices of 5 µm stained with 1% cresyl violet were analyzed. The study showed a decrease in animals motor activity and a decrease in the fluorescence intensity of coenzyme NADH, but not for FAD coenzyme. Structural analysis showed that in some places, the expansion of the perivascular space is visualized, the vessels are mostly full-blooded. Most of the neurons are stained pale, rounded, a small number of them is in the form of shadow cells. The results indicate the structural and functional motor activity decrease that may be an initiation of mitochondrial dysfunction process.