Comunicato stampa 17/2/2011

Team of surgeons from B.V. Petrovsky Russian Research Centre of Surgery of the Russian Academy of Medical Sciences, lead by professor Vladimir Parshin, first time in Russia performed the transplantation of trachea without immunosuppression based on the regenerative medicine approach.

The successful transplantation, that was made due to international cooperation on December 7, 2010, gave a new chance for life for 25 years' old women. The patient had a severe and life-threatening stenosis of all trachea. She was not operable by classical means and would only benefit from a tracheal total replacement.

After having treatment in several countries – China, Israel, USA - with no success, she returned to Russia and came to the Centre of Surgery on very "right" moment. The specialists of this Center have just started the collaboration with professor Paolo Macchiarini, well-known surgeon and specialist in the regenerative medicine who is Professor of Regenerative Surgery at the Karolinska Institutet in Stockholm and Director of the Department of General Thoracic and Regenerative Surgery and Intrathoracic Biotransplantation at the University Hospital Careggi in Florence. Russian specialists visited Florence in September 2010 and learned the method of professor Macchiarini in his lab.

According this method, the donor's trachea is preparing during 17-20 days with many cycles of washing to eliminate all the donor cells – this allows to avoid immunosuppression after transplantation. After that the decelluarized trachea was repopulated with own stem and epithelial cells of the patient.

During several weeks after transplantation the patient's body plays role of bioreactor in which the new organ is being formed. By now in Western Europe there was performed nine transplantations based on this method. The 10th was made in Russia. In this country this is the beginning of developing of regenerative medicine which may become an alternative for diseases of not only the upper airways but also will open new possibilities for regeneration of other organs.

This transplantation was supported by Russian Foundation "Science for Life Extension" which financed this project and organized the international collaboration.

Comunicato stampa 19/2/2011

"Bionics in medicine of the future" - this is the title of a public lecture by Spanish transplantologist Paolo Macchiarini, which will be held on February 24, 2010 in the conference hall of the rector's building of the Sechenov Moscow Medical Academy. The lecture is organized by Dmitry Zimin foundation "Dynasty**", in collaboration with research foundation "Science for life extension", at whose invitation Paolo Macchiarini will visit Russia for the first time.**

Bionics - is a completely new approach in modern medicine, a symbiosis of biological and synthetic materials, which can help to build functional organs in the human body.

Paolo Macchiarini managed to achieve just this: In 2008, Professor Macchiarini led an

international team of scientists who performed the transplantation of patient trachea grown out of her own stem cells on donor scaffold in bioreactor.

Four days later the trachea has taken root so well, that it was difficult to distinguish it from adjacent sections of the respiratory tract. Just a month later, this trachea brought up its own network of blood supply.

The professor continues to operate in Barcelona, and continues scientific work at University College London. And now he drew his attention to Russia and is ready to cooperate with our clinics, so that this approach be developed here. The first step - holding a master class in regenerative medicine for Russian specialists in cellular technology, transplantologists, which is organized by Foundation "Science for Life Extension" on February 19, in collaboration with Russian Academy of Medical Sciences. Applications for participation are coming from dozens of institutes and laboratories of Moscow, St. Petersburg, Novosibirsk and Ekaterinburg.

And what tasks the bionics should accomplish in one, five or ten years - is a subject of upcoming discussion between Paolo Macchiarini and the staff of the Russian research Foundation "Science for Life Extension." The product of such discussion will be a section "Bionics", which will be included into a comprehensive interdisciplinary research program "Science against aging."