

Nencki Institute of Experimental Biology

Team lead by prof. Agnieszka Dobrzyń within Laureates of the 'Golden Scalpel 2018' competition

2018-10-16



On October 10th 2018, the winners of the 'Golden Scalpel 2018' competition have been announced. 2nd place has been awarded to the BIONIC PANCREAS project carried out by the consortium: Nencki Institute of Experimental Biology (Prof. Agnieszka Dobrzyń), Foundation of Research and Innovation (dr hab. Michał Wszola), Warsaw Technical University (prof. Wojciech Świąszkowski), Warsaw Medical University (prof. Artur Kamiński), Research Hospital of Baby Jesus, and Medispace Sp.z o.o.

The 'Golden Scalpel' is a prestigious competition run by 'Puls Medycyny' for the last 10 years. The jury, which consisted of 12 interdisciplinary experts, award the most innovative medical projects that have the highest potential for clinical implementation and improvement of Health Care.

The BIONIC PANCREAS project, entitled: '3D bioprinting of living pancreatic islets or insulin-producing cells into scaffolds of bionic pancreas', aims to 3D-bioprint a functional bionic pancreas consisting of proper extracellular matrix for vasculature and islets or even further—insulin producing cells retrieved from the recipient. In Poland, there are more than 2.5 million diabetic patients, 200,000 of which are patients with type 1 diabetes. Nowadays islet transplantation is a limited treatment of diabetes, due to more than 50% of transplanted islets being lost within the first few days of implantation: beta cells of the implants stop producing insulin mainly due to ischemic injury and loss of extracellular matrix. Bioprinting is an extremely promising new technology that can be used for production of 3D scaffold for tissue transplants. our ultimate goal is to generate Human Bionic Pancreas – a 3D fully functional scaffold for islet transplants that could become a full-fledged method for treatment of diabetes.