

Training Report

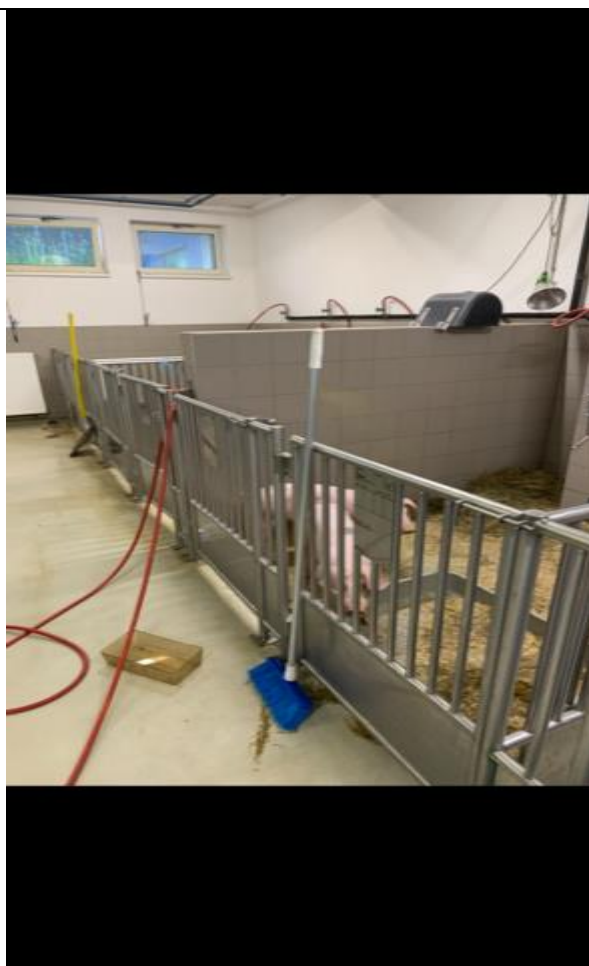


Program	Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers
Project title	Domestic animals as experimental models for evaluation of biomaterials compatibility
Project acronym	ANIMBIOCOMP
Principal Investigator (PI)	Dr Danijela Kirovski
Traveller	Dr Milica Stojić, assistant professor and dr Ljubomir Jovanović, assistant professor
SRO of the traveller	Faculty of Veterinary Medicine University of Belgrade
Host Institution (HI)	Medical University of Graz Division of Biomedical Research
Project Partner:	Dr Vladimir Bubalo
Travel location (city, country)	Graz, Austria
Travel start date	20.06.2021.
Travel end date	25.06.2021.

Summary report:	<p>During the training in Graz (20.06 – 25.06), we had opportunity to visit all facilities at the Division of biomedical research at Medical University of Graz. Division of biomedical research has main unit for biomedicine models and main unit for preclinical-imaging diagnostics. In these units there are nine operating rooms (five for pigs, sheep, rabbits and four for mice and rats), two rooms for performing experimental procedures and studying the behavior of rats, room for preparing and sterilizing surgical instruments, room for recuperating, room with central oxygen supplies, two rooms for ultrasound examination, laboratory for hematology and clinical chemistry and micro-computer tomography.</p> <p>During the training days with researcher P1 (Ljubomir Jovanović) we attended kidney transplant surgery in pigs and had opportunity to cooperate with research team in Graz in developing a new method to improve quality control of donor organs. Their method aims not only to increase the total number of successful transplantations, but also to simplify the identification of initially damaged organs, as an optimized selection process prior to transplantation could significantly reduces subsequent interventions. As we are both researchers in field of physiology of domestic animals, our activities were related to prevention of the endocrine, metabolic and health disorders that arise in domestic animals that are used as experimental models. So, knowledge in these areas was very important in these kinds of studies because in examining the biomaterial effects after implanting, disorders which can lead to permanent tissue and</p>
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	organ damage can be foreseen.
Objectives of training:	<ul style="list-style-type: none"> • Use of physiological parameters monitoring protocol during transplantation • Learning and conduction of criteria for selection of donor and recipient pig • Evaluation criteria for selection of organ (kidney or liver) and physiological performance of the organ • Transplantation techniques • Ultrasound evaluation kidney transplantation
Tasks of trainings:	<ul style="list-style-type: none"> • Understanding the mechanism of combining the advantages of two state of the art imaging techniques: optical imaging and ultrasound imaging • Evaluate donor and recipient pigs; analysis of health performance • Evaluate selected organ; analysis of physiological performance • Introduce and learn to use needed equipment in laboratory for kidney assist dedicated device for ex vivo perfusion of donor kidneys
Plan of visit (per a day):	<p>Our stay in Austria lasted for 6 days. First day traveling and arriving to Graz. Second day meeting with dr Vladimir Bubalo and introducing in the facilities of Division of biomedical research and all stationery and laboratory equipment. Third day donor kidney explanation. Fourth day implantation of donated kidneys. Fifth day monitoring of donor health, physiological parameters. Sixth day closing remarks and discussion with dr Vladimir Bubalo and traveling back to Belgrade</p>
Description of gained techniques:	Training program from basic examination of the animals and how to evaluate donor and recipient experimental animal (pig) for kidney transplantation
Description of gained skills:	Selection of adequate animal model for experimental surgery. Introduce and learn to use needed equipment in laboratory for kidney assist dedicated device for ex vivo perfusion of donor kidneys
Conclusions:	During our training days at Medical University of Graz, Division of Biomedical Research, Dr Vladimir Bubalo and his team gave us great experience and motivation to go further in our professional improvement and to continue implementation of learned techniques and skills to our home institution. With friendly atmosphere everything was very organized and professionally planned.

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description:





Kidney Assist device for ex vivo perfusion



Liver Assist device for ex vivo perfusion



Monitoring of physiological parameters during kidney transplant surgery, Milica Stojić



Monitoring of ex vivo perfusion with liver assist device



Milica Stojić and Ljubomir Jovanović (right) with Project partner dr Vladimir Bubalo (left)

