

TITLE:	Innovative methods for the application of irreversible electroporation for the treatment of malignant tumour formations
FUNDING BODY:	Bulgarian National Science Fund
CALL:	Funding competition for fundamental research – 2021
GRANT AGREEMENT:	No KP-06-N53/12
PROJECT MANAGER:	Assoc. Prof. Georgi Todorov, PhD
DURATION:	2021-2025

Summary: The main objective of this project is to investigate the efficacy of applying irreversible electroporation to printed biological soft tissue samples. The focus is on the design, development and operation of a complete platform for the application of irreversible electroporation. Achieving this objective requires the following specific objectives to be met: • Development of a computer model of irreversible electroporation; • Development of physical tissue biomodels for testing with the new irreversible electroporation platform; • Development of a prototype of electrical projection; Validation and evaluation of models and techniques.

With the realization of the prototype and conducting experimental studies, a direct comparison between ablative techniques based on thermal and irreversible electroporation will be allowed, which analysis will show in which cases of lesions to apply one or another technique. We expect the developed methodology for printing three-dimensional tumour models to accelerate the applications of bioprinting in the research of Bulgarian researchers.