



MSc program “Biomedical Engineering and Technology”
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Autumn/Winter semester 2023-2024

Supervisor	Diploma Thesis title	Required knowledge / Type of thesis
1	Cristina Soguero Multimodal interpretable machine learning methods for early prediction of chronic diseases	Programming, machine learning
2	Cristina Soguero Fusion and interpretable learning methods for identifying melanoma	Programming, machine learning
3	Christos Michail Development of novel methods for the preparation of phosphor scintillator materials (including nanomaterials) in the form of thin flexible films based on modified resins	Experimental
4	Christos Michail Development of novel phosphor scintillator materials (including nanomaterials) and application in digital medical imaging systems with complementary metal-oxide-semiconductors (CMOS) type sensors	Experimental
5	Christos Michail Experimental study of crystal scintillators for medical applications	Experimental
6	Spiros Kostopoulos Medical image analysis in Leukemia	Biostatistics, Medical signal, and image processing
7	Spiros Kostopoulos Radiomics in oncology studies	Biostatistics, Medical signal, and image processing
8	Efstratios David Experimental Evaluation of single Scintillator Crystals for Nuclear Medicine Detectors	Experimental/ knowledge of nuclear imaging detectors
9	Efstratios David Experimental Evaluation of pixellated Scintillator Crystal arrays for Nuclear Medicine Detectors	Experimental/ knowledge of nuclear imaging detectors
10	Panagiotis Liaparinos Optical diffusion studies in powder structures for biomedical applications	Biomedical Optics, Software
11	Panagiotis Liaparinos Image quality performance in dental X-ray imaging	X-ray imaging, Image quality performance
12	Dionisis Cavouras Application of Image Analysis and Machine Learning methods to discriminate patients with Alzheimer’s disease from healthy individuals using Brain-MRI images	Image processing, Statistical analysis, and Machine Learning methods
13	Efstratios David (Via Erasmus+ program in Ancona, Italy) Prof. Scalise/Prof. Rinaldi/Dr. Montalto Innovative 3D printable Collimators for SPECT/General purposes	Knowledge of nuclear imaging detectors
14	Efstratios David (Via Erasmus+ program in Ancona, Italy) Prof. Scalise/Prof. Rinaldi/Dr. Montalto 3D printed scintillators: from production to characterization	Detectors’ characteristics and typical characterization techniques

15	Efstratios David (Via Erasmus+ program in Ancona, Italy) Prof. Scalise/Prof. Rinaldi/Dr. Montalto	Heterostructured detectors for fast timing	Knowledge of nuclear imaging detectors
16	Panagiotis Liaparinos (Via Erasmus+ program in Ancona, Italy) Prof. Scalise/Prof. Rinaldi/Dr. Montalto	Optical and X-ray imaging simulation of innovative composite scintillators	Monte Carlo Simulations, Matlab software
17	Luis Coelho	Telerehabilitation using AI-based pose estimation	Python programming
18	Luis Coelho	Objective Characterization of Voice Pleasantness	Python programming
19	Luis Coelho	Classification and Segmentation of Foot Ulcers	Python programming
20	Minos Matsoukas	Integration of AI tools in drug repurposing	Computational biology/chemistry, Python programming
21	Minos Matsoukas	Identification of transmembrane receptor bioactive molecules through virtual screening	Computational biology/chemistry, Programming
22	Klaus Peter Koch	Stimulation of tactile perceptions	Matlab / experimental work in Germany
23	Klaus Peter Koch	Investigation of mechanical artifact on electrodes	Matlab / experimental work in Germany
24	Klaus Peter Koch	Setup for deriving electrophysiological signals on the intestine in vitro	Matlab / experimental work in Germany
25	Irina Andra Tache	Automatic Control inside the human body	Control systems
26	Irina Andra Tache	Modelling the heart nervous system	Control systems
27	Dimitris Glotsos	Modeling of Tai Chi biomechanics using motion capture system tracking data	Matlab, Arduino, microprocessors / experimental
28	Dimitris Glotsos	Schizophrenia diagnosis using voice recognition	Matlab, machine learning / experimental
29	Dimitris Glotsos	Decision support systems in microscopy for cancer diagnosis	Matlab, machine learning / experimental