

## Education

### Medical Institute @ Penza State University

Penza, Russia

GENERAL MEDICINE | *with honours*

2018 – 2024

- ISCED 7
- Head of [Student Scientific Society of Human Anatomy Department](#)
- Grade Average — 4.8 out of 5.0

### Penza State University

Penza, Russia

TRANSLATOR IN THE FIELD OF PROFESSIONAL COMMUNICATION | *with honours*

2021 – 2023

## Featured Peer Review Publications (Scopus)

- MACHINE LEARNING APPROACH TO THE CLASSIFICATION OF TENSIO-METRIC BLOOD TEST RESULTS FOR CHRONIC HEART FAILURE DIAGNOSIS 2024

Mohie M. Alqezweeni, Dmitry N. Gribkov, Vladimir I. Gorbachenko, Vladimir V. Potapov, **Ilia Miltykh**, Oleg Zenin *Frontiers in Artificial Intelligence and Applications*
- A NEW DIMENSION IN MEDICAL EDUCATION: VIRTUAL REALITY IN ANATOMY DURING COVID-19 PANDEMIC 2023

**Ilia Miltykh**, Edgar S. Kafarov, Serghei Covantsev, Ali S. Dadashev, Apostolos A. Skarlis, Oleg K. Zenin *Clinical Anatomy (Q1)*
- ANATOMICAL VARIABILITY OF KIDNEY ARTERIAL VASCULATURE BASED ON ZONAL AND SEGMENTAL TOPOGRAPHY 2023

Edgar S. Kafarov, **Ilia Miltykh**, Andrey V. Dmitriev, Oleg K. Zenin *Heliyon (Q1)*
- MOLECULAR PATHWAYS IMPLICATED IN RADIORESISTANCE OF GLIOBLASTOMA MULTIFORME: WHAT IS THE ROLE OF EXTRACELLULAR VESICLES? 2023

Pavel Burko, Giuseppa D'Amico, **Ilia Miltykh**, Federica Scalia, Everly Conway de Macario, Alberto J. L. Macario, Giuseppe Giglia, Francesco Cappello, Celeste Caruso Bavisotto *International Journal of Molecular Sciences (Q1)*
- THE ROLE OF FIBRINOGEN IN SERUM AND PLASMA BLOOD TESI-O- AND RIOMETRY IN CORONARY HEART DISEASE AND VALVE LESIONS PATIENTS 2023

V. V. Potapov, E. V. Khomutov, L. S. Dmitriev, O. K. Zenin, **I. Miltykh**, S. Yu. Zaitsev *Siberian Journal of Life Sciences and Agriculture (Q3)*
- CARDIAC VENOUS SYSTEM: A LITRATURE REVIEW 2023

E. S. Kafarov, **I. Miltykh**, O. K. Zenin *Medical News of North Caucasus (Q4)*
- EARLY DIAGNOSES OF CHRONIC HEART FAILURE USING NEURAL NETWORK CLASSIFIER OF TENSIO-METRIC BLOOD TEST RESULTS 2022

M. M. Alqezweeni, V. I. Gorbachenko, O. K. Zenin, D. N. Gribkov, V. V. Potapov, **I. Miltykh** *Proceedings ICDSIC 2022*
- DEVELOPMENT OF «CITY OF THE FUTURE» SCENE TO ASSESS THE USER EXPERIENCE IN A VIRTUAL REALITY ENVIRONMENT 2022

A. Yu. Tychkov, N. S. Bofanova, A.K. Alimuradov, D.S. Chernyshov, **I. Miltykh** *Proceedings DCNA 2022*
- PATHOGENESIS OF CERTAIN NEUROLOGICAL COMPLICATIONS OF NEW CORONAVIRUS INFECTION: A FOREIGN LITERATURE REVIEW 2022

N. S. Bofanova, **I. Miltykh**, O. K. Zenin *The Russian Journal of Preventive Medicine*
- HEMODYNAMIC FEATURES IN A STRUCTURALLY DIFFERENT ARTERIAL INTRAORGANIC BIFURCATIONS OF THE HUMAN HEART BY NUMERICAL MODELING 2021

O. K. Zenin, V. S. Overko, A. V. Dmitriev, **I. Miltykh** *Siberian Journal of Life Sciences and Agriculture (Q3)*

For details please [see the website](#).

## Skills

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|---------------------|---|----------------------|----------------------------------|
| <b>3D-Modelling</b> | blender, SolidWorks, ANSYS Mechanical, ANSYS Fluent | <b>Graphics</b>      | Illustrator, Photoshop, Inkscape |
| <b>Programming</b>  | Python, R   | <b>Data analysis</b> | IBM SPSS, jamovi                 |
| <b>Office suite</b> | Word, Excel, PowerPoint, T <sub>E</sub> X           | <b>CAT</b>           | SmartCAT                         |
| <b>Languages</b>    | English (CEFR — B2), Greek, Russian                 |                      |                                  |

# Honors

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## Research Grants

|             |   |        |
|-------------|---|--------|
| 2024        | <b>Development of computer application for investigating renal intra-organ arterial vasculature using neural network modeling</b> , Foundation for Assistance to Small Innovative Enterprises in Science and Technology | Russia |
| 2022        | <b>Rector's Grant: System for Early Diagnostics of Chronic Heart Failure</b> , Penza State University   | Russia |
| 2020 – 2021 | <b>Analysis of Morphology and Function of Kidney Intraorgan Vasculature</b> , NGO «Civil society foundation»  | Russia |

## Scholarship

|             |   |        |
|-------------|---|--------|
| 2023        | <b>Scholarship for attendance of Θ.Υ.Ε.Σ.Π.Α. Programme</b> , Identity number: 6957                       | Greece |
| 2022 – 2023 | <b>Government's scholarship</b> , Order of the Ministry of Science and Higher Education No 750 10.08.2022 | Russia |
| 2021 – 2022 | <b>President's scholarship</b> , Order of the Ministry of Science and Higher Education No 685 27.07.2021  | Russia |

## Featured Conferences

|      |  |                        |
|------|--|------------------------|
| 2023 | <b>Semmelweis International Students' Conference</b> , 1 <sup>st</sup> prize   | Budapest, Hungary      |
| 2022 | <b>Regional Contest of Research Papers «Scientific Breakthrough»</b> , Laureate in the Medical Sciences Section  | Penza, Russia          |
|      | <b>International scientific-practical conference young scientists «Scientific research of modern problems of the development of Russia: interdisciplinary research as a driver of transformation of science»</b> , Best Report | St. Petersburg, Russia |
| 2021 | <b>XVI European Association of Clinical Anatomy (EACA) – XII International Symposium of Clinical and Applied Anatomy (ISCAA) joint congress</b> , Early-Career Researcher  | Padova, Italy          |
|      | <b>XXVII National Conference of Young Scientists with international participation «Actual problems of biomedicine – 2021»</b> , Best Report  | St. Petersburg, Russia |
|      | <b>XVI International (XXV National) Pirogov Scientific Medical Conference of Students and Young Scientists</b> , Laureate  | Moscow, Russia         |
| 2019 | <b>II Moscow International Universiade on Human Anatomy «ANATOM and I»</b> , Winner  | Moscow, Russia         |

# Research Experience

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## Professor Oleg K. Zenin's lab

Penza, Russia

### MORPHOLOGICAL AND FUNCTIONAL ANALYSIS OF KIDNEY VASCULATURE

2019 – present

- Performed corrosion casting of vasculatures
- Designed an automatic morphometry analysis using Python
- Performed Structural Load and Hemodynamics Analysis using ANSYS Academic
- Interpreted research results
- Wrote review and research papers
- Developed «3D-Vasculograph», a computer software that generates 3D models of various organs' vasculature based on true morphometric data

### SYSTEM FOR EARLY DIAGNOSTICS OF CHRONIC HEART FAILURE

Apr. 2022 – Nov. 2022

- Prepared grant proposal for a research project
- Modified PAT-1 tensiometer to use pump for samples
- Measured blood tensiometric parameters in patients with CHF and comparison group
- Discovered Markers for Early Diagnosis of Chronic Heart Failure using Neural Network Classifier of Tensiometric Blood Test Results

## Natalia S. Bofanova's lab

Penza, Russia

### VIRTUAL REALITY AS A TREATMENT METHOD IN NEUROLOGY

2021–2022

- Performed physical and neurological examination of study's participants
- Surveyed participants using Simulator Sickness Questionnaire (SSQ)
- Interpreted the results of SSQ
- Reviewed Virtual Reality for Therapy of Neurological and Mental Disorders in 4P-Medicine era

# Internships

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## ΘΕΡΙΝΕΣ ΥΠΟΤΡΟΦΙΕΣ ΕΛΛΗΝΙΚΩΝ ΣΠΟΥΔΩΝ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ

Athens, Greece

### SUMMER COURSE IN MODERN GREEK STUDIES

June – July 2023

- ECTS 6, 84 hours
- Grade: 9.5 out of 10
- Scholarship of National and Kapodistrian University of Athens