

Faculty of Medicine



Faculty
of Medicine



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Wrocław University
of Science and Technology



HR EXCELLENCE IN RESEARCH



unite!

University Network for Innovation,
Technology and Engineering



History of the Faculty

The first Faculty of Medicine – as an integral part of University of Wrocław and Wrocław University of Science and Technology was established in 1945 with its first dean – prof. Ludwik Hirszfeld.

In 1950 the faculty was transformed into Wrocław Medical Academy. Recently, in 2023 Faculty of Medicine of Wrocław Tech was created with the recruitment of 60 students at the beginning.





Wrocław
University
of Science
and Technology

Faculty on the Campus

Faculty of Medicine

Building C-7

Grunwaldzki 11

51-377 Wrocław

Poland

Medical Simulation Center

Building C-20

Hoene-Wrońskiego 13c st.

50-376 Wrocław

Poland



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Faculty Leadership



Dean of Faculty of Medicine

Dariusz Jagielski, MD, PhD, DSc, Assoc. Prof.



Vice – Dean for Clinical and Scientific Affairs

Prof. Tomasz Roleder, MD,
PhD, DSc



Vice – Dean for General Affairs

Prof. Tomasz Sozański, MD,
PhD, DSc



Vice – Dean for Student Affairs and Didactics

Iwona Hołowacz, PhD,
Eng, Assoc. Prof.





Figures

100

undergraduates

60 second year

40 first year



Faculty
of Medicine

22

Associate (university)
professors

20

professors

12

non-academic staff

52

Adjuncts/assistants

7

ESI Highly Cited
Papers

45

articles in high-impact
journals (Q1) found in
the Journal Citation
Reports





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Mission

The mission of the Medical Faculty at Wrocław Tech is to provide education and conduct pioneering research in the realms of medical sciences, health, and technologies developed for patient diagnostics and treatment.

We are committed to this mission by upholding principles of scientific excellence, embracing innovation, and fostering collaboration. We support individual development, empowering our graduates to shape a healthier future with courage and responsibility.



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Strategy

Our strategy involves the integration of cutting-edge advancements in engineering sciences with medicine and patient care, establishing an interdisciplinary research and educational environment that addresses both current and future health and societal needs.

Working together with the medical sector, pharmaceutical industry, and healthcare centers, we effectively translate our research findings into clinical environments.

By building partnerships with the surrounding community, the healthcare sector, and the field of innovative technologies, we create a collaborative network that promotes the exchange of knowledge and experiences. Our aspiration is to educate future leaders who, guided by ethics and social awareness, are ready to respond to the critical health challenges that we face today.





Faculty Structure

Faculty of Medicine

Department of Non-Surgical Clinical Sciences

Head:
Prof. Waldemar Banasiak, MD,
PhD, DSc

Department of Surgical Clinical Sciences

Head:
Marek Zawadzki, MD, PhD,
DSc, Assoc. Prof.

Department of Preclinical Sciences, Pharmacology and Medical Diagnostics

Head:
Prof. Tomasz Sozański,
MD, PhD, DSc

Department of Clinical Neuroscience

Head:
Prof. Joanna Rymaszewska,
MD, PhD, DSc

Department of Social Sciences and Infectious Diseases

Head:
Marcin Zawadzki, MD, PhD,
DSc, Assoc. Prof.

Department of Hematology and Oncology

Head:
Bożena Cybulska-Stopa,
MD, PhD, DSc, Assoc. Prof.





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Admission statistics

2023/2024 academic year

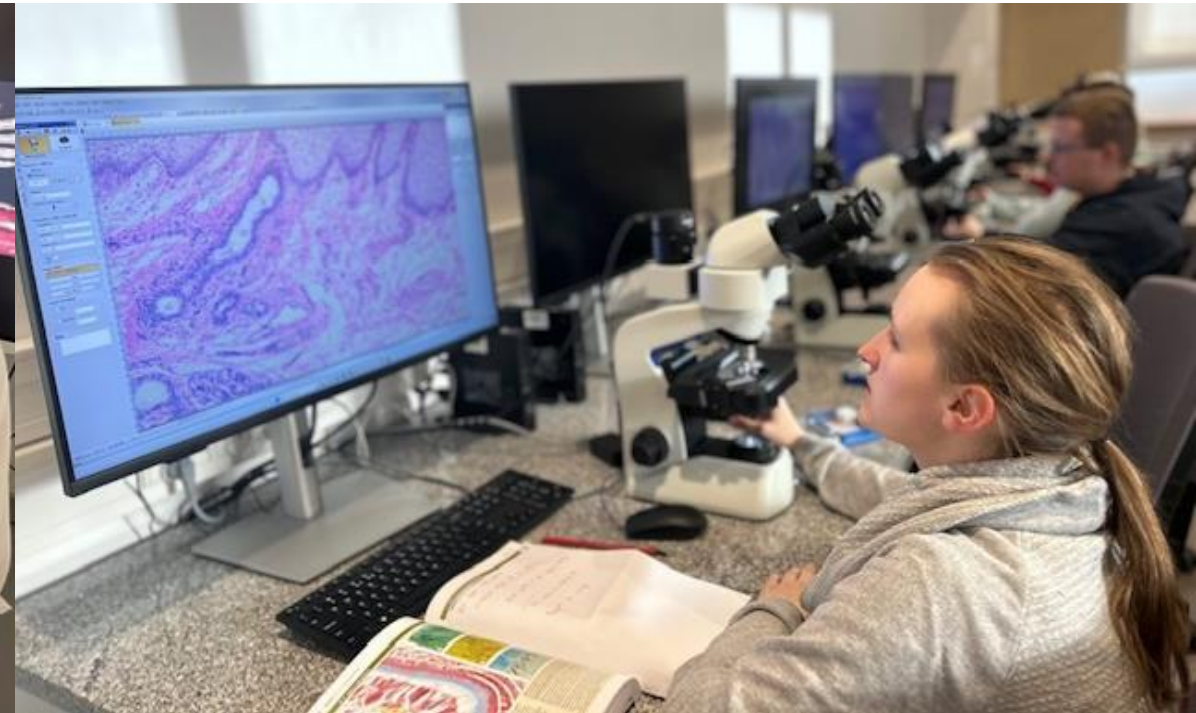
1748 applicants for 60 places

29 applicants per 1 place

2024/25 academic year

676 applicants for 40 places

17 applicants per 1 place



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Accomplishments

- **Andrzej Wojnar, Assoc. Prof.** has been honoured with the Gloria Medicinae medal
- **Prof. Waldemar Banasiak** has been appointed as the National Consultant in Cardiology for Poland
- **Prof. Szymon F. Dragan** has been elected as the president of the Polish Orthopedic and Traumatological Society
- **Marek Zawadzki, Assoc. Prof.** has been elected as the president of the Polish Society for Oncologic Surgery
- **Prof. Magdalena Krajewska** has been elected as the president of Polish Nefrology Society

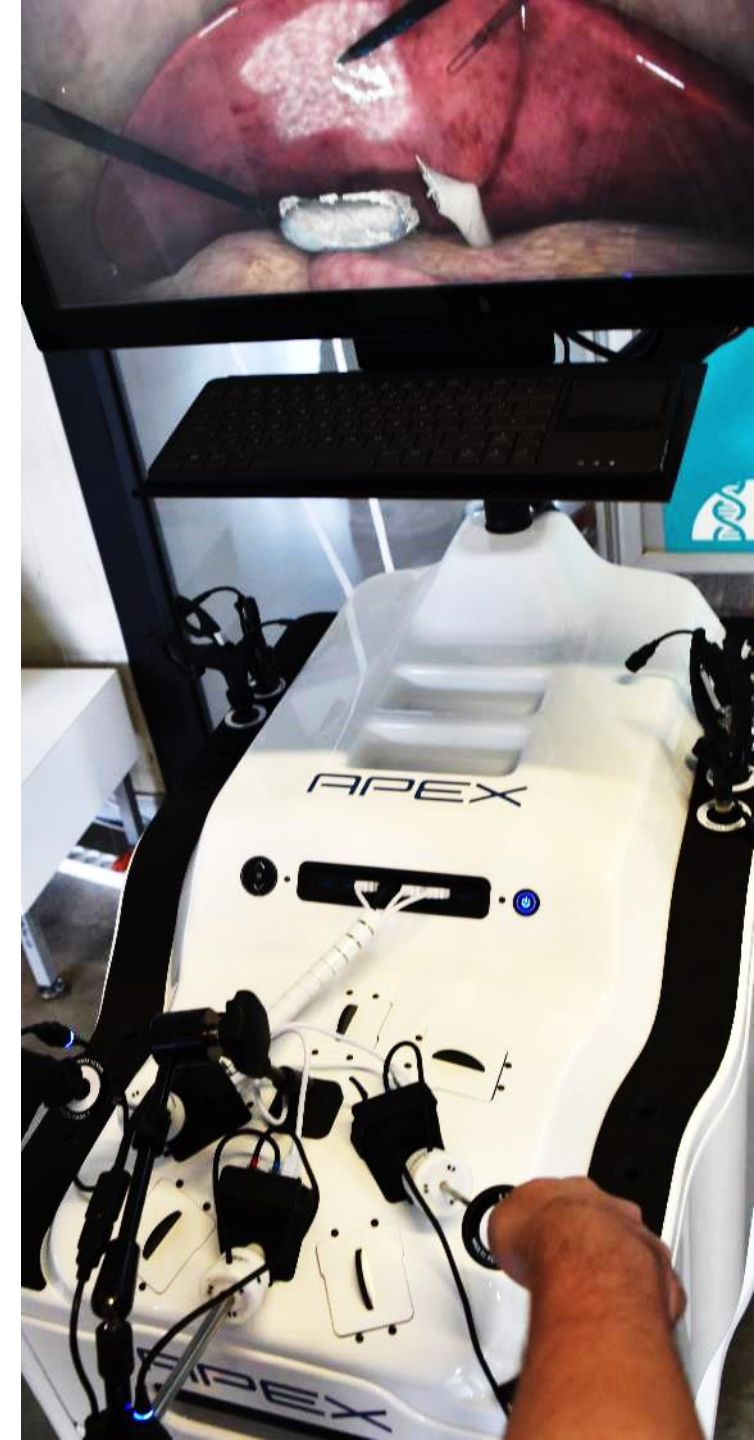




Priority Research Areas

- Health and Medical Technologies
- Information Technology, Data Science, and Artificial Intelligence

The collaboration between Wrocław Tech and medical professionals highlights how advancements in IT, robotics, 3D printing, nanotechnology, and bioengineering are revolutionizing patient care.





Health and Medical Technologies

This area reflects the ongoing process of medical technization and an increasingly close relationship between progress in medicine and technological development.

It includes interdisciplinary research at the intersection of health sciences and basic and technical sciences, as well as strictly medical research.





Centre for Medical Simulation

- Low fidelity rooms (low-fidelity simulation)
- High fidelity rooms (high-fidelity simulation)
- Debriefing and Objective Structured Clinical Examination rooms

Laboratories:

- Technical skills laboratory
- Virtual Reality Workshop
- Ultrasound laboratory
- Laparoscopy laboratory

Contact:

Head: Jarosław Sowizdraniuk

jaroslaw.sowizdraniuk@pwr.edu.pl

wmed.pwr.edu.pl/en/centrum-symulacji-medycznej



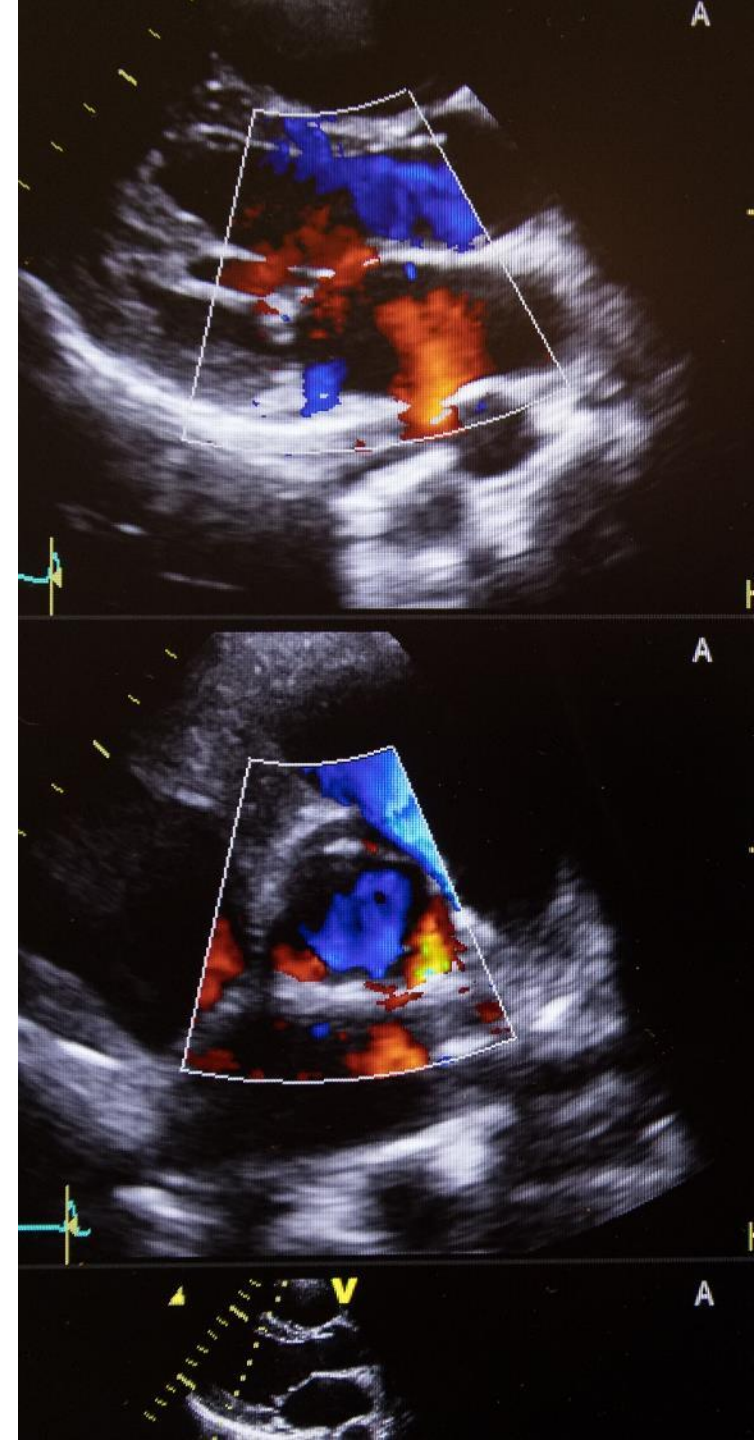


Research laboratories

- Ultrasounds laboratory
- CT laboratory
- MRI laboratory
- Angiography laboratory

Contact:

wmed.pwr.edu.pl/en/pracownie





Department of Non-Surgical Clinical Sciences

Basic areas of the research activities:

- **Cardiooncology**
Prof. Waldemar Banasiak, MD, PhD, DSc,
Bożena Cybulska-Stopa, MD, PhD, DSc, Assoc. Prof.
- **Cardioneuroablation**
Dariusz Jagielski, MD, PhD, DSc, Assoc. Prof.
- **Coronary sinus reducer, antiplatelet treatment**
Prof. Adrian Doroszko, MD, PhD, DSc





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Department of Non-Surgical Clinical Sciences

Basic areas of the research activities:

- **Intracoronary imaging, AI**
Prof. Tomasz Roleder, MD, PhD, DSc
- **Phenotypes of HFpEF, arterial stiffness**
Joanna Jaroch, MD, PhD, DSc, Assoc. Prof.



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Department of Surgical Clinical Sciences

Basic areas of the research activities:

- **Colorectal cancer**

Mariusz Chabowski, MD, PhD, DSc, Assoc. Prof.

- **Head and neck neoplasm**

Prof. Małgorzata Wierzbicka, MD, PhD, DSc

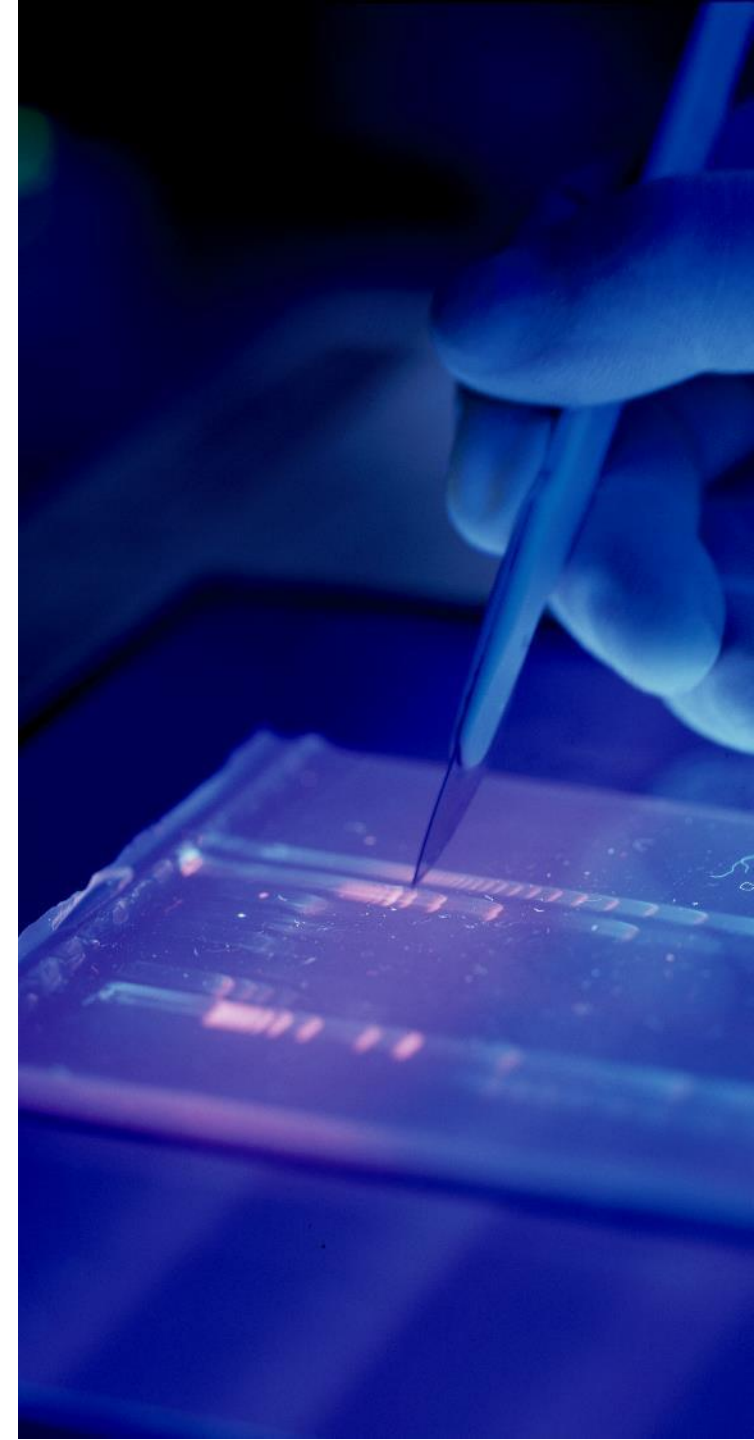




Department of Preclinical Sciences, Pharmacology and Medical Diagnostics

Basic areas of the research activities:

- **Neuroradiology**
Prof. Joanna Bladowska, MD, PhD, DSc
- **Clinical pharmacology, animal models, civilization diseases**
Prof. Tomasz Sozański, MD, PhD, DSc





Department of Preclinical Sciences, Pharmacology and Medical Diagnostics

Basic areas of the research activities:

- **Immunology of microbiom**
Prof. Krystyna Dąbrowska, MD, PhD, DSc
- **Biology of cancer**
Mirosław Sopol, MD, PhD, DSc, Assoc. Prof.





Department of Social Sciences and Infectious Diseases

Basic areas of the research activities:

- **Clinical toxicology**
Marcin Zawadzki, MD, PhD, DSc, Assoc. Prof.
- **Covid-19, hepatitis**
Prof. Marta Rorat, MD, PhD, DSc





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Department of Clinical Neuroscience

Basic areas of the research activities:

- **Dementia, psychosocial interventions**
Prof. Joanna Rymaszewska, MD, PhD, DSc
- **Bypassing of brain arteries, moyo-moya disease**
Dariusz Szarek, MD, PhD



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Department of Hematology and Oncology

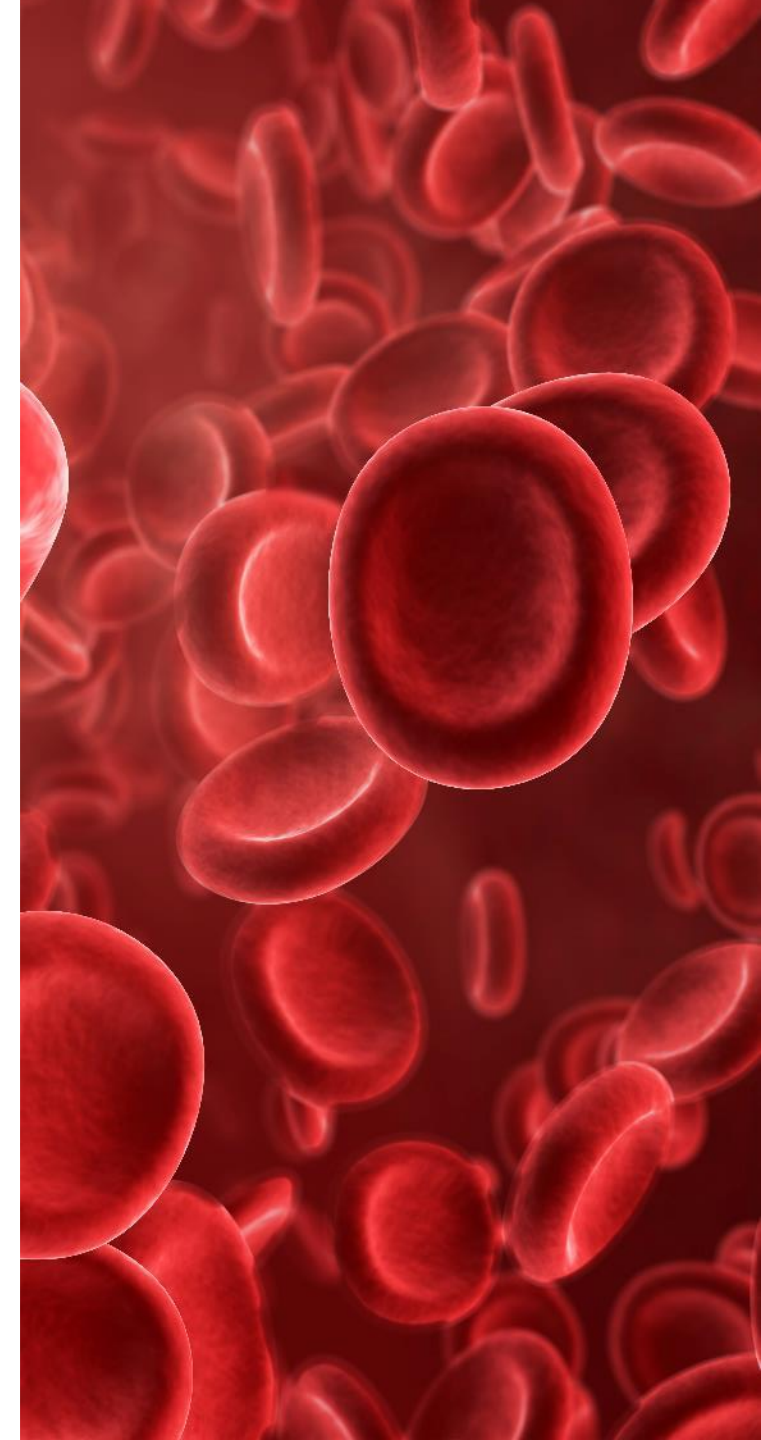
Basic areas of the research activities:

- **Immunooncology**

Bożena Cybulska-Stopa, MD, PhD, DSc, Assoc. Prof.

- **Hematooncology**

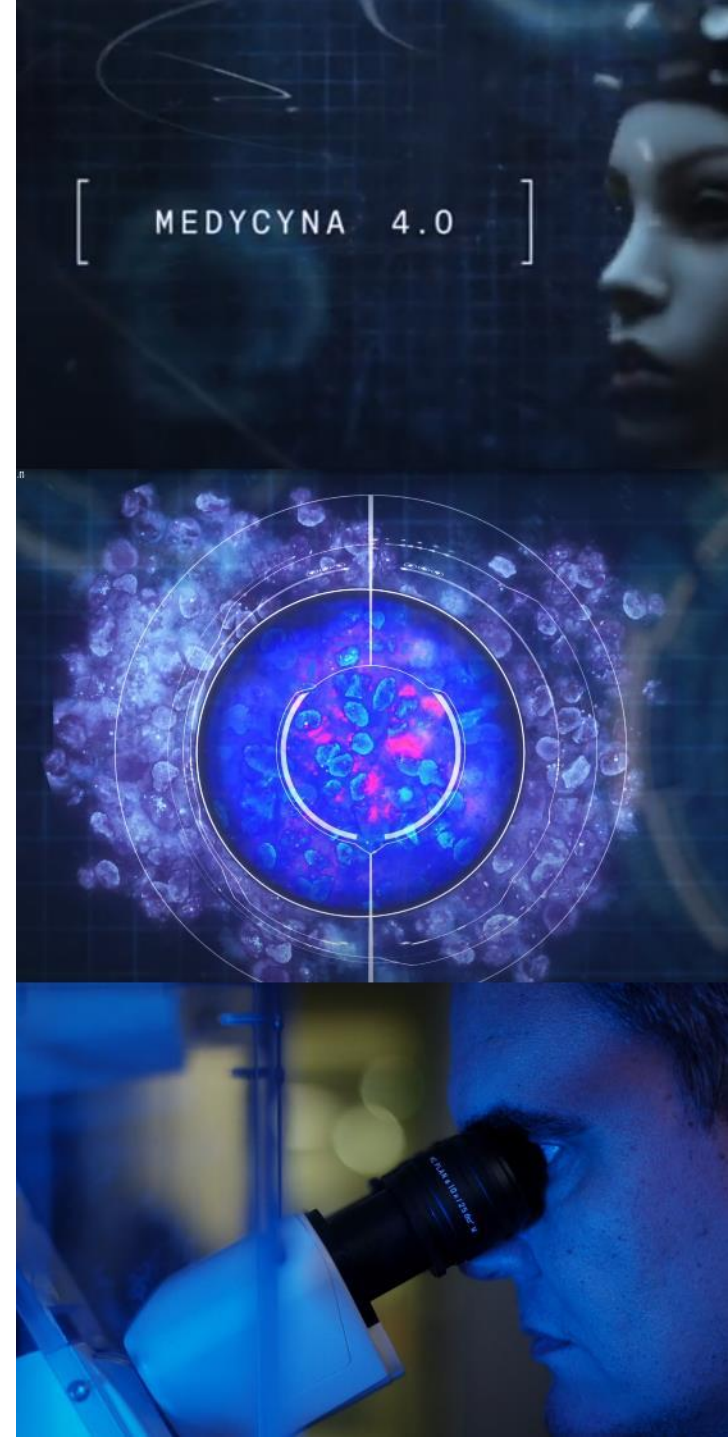
Jarosław Dybko, MD, PhD



Medicine 4.0 – technologies that save lives and health

We have developed a series of videos entitled “Medicine 4.0”, which are available on the University's YouTube channel. In this way, we show the collaboration between researchers at Wrocław Tech and doctors in the search for new solutions for more effective therapies and ways to save lives.

- Markers against cancer
- Tunnels of life – stents
- Artificial intelligence in diagnostics
- Under the pressure of time. To rescue the brain





World's TOP 2% Scientists (2023)



**Prof. Tomasz Sozański,
MD, PhD, DSc**



**Prof. Krystyna Dąbrowska,
MD, PhD, DSc**





Cooperation with Industry

Development of AI Algorithms for Optical Coherence Tomography (OCT) Analysis

The collaboration with DataJuiceLab (Warsaw) focuses on developing advanced artificial intelligence (AI) algorithms for the analysis of Optical Coherence Tomography (OCT) images in the detection of vulnerable plaques in arteries.

AI Algorithm Development for FFR Analysis from CT Images

In partnership with Hemolens, a Wrocław-based company, the goal is to create AI-driven software for analyzing Fractional Flow Reserve (FFR) based on CT images.





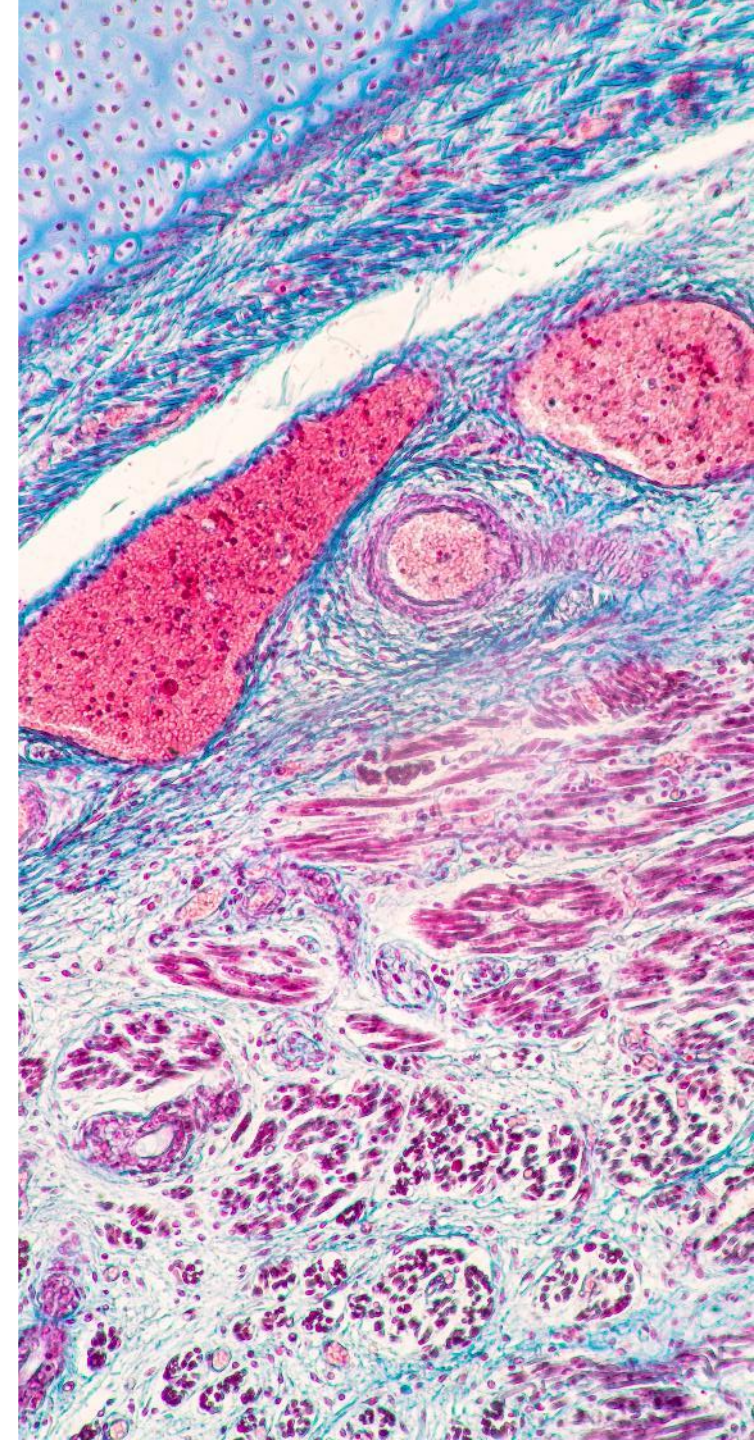
Cooperation with Academia

NIRS-IVUS (Near-Infrared Spectroscopy Intravascular Ultrasound) Research for Calcified Lesions, cooperation with Collegium Medicum and University Clinical Hospital patients.

Objectives:

- Clinical application trials, and the development of new protocols for managing calcified lesions.

The LIFE Study/GEMINI in collaboration with Leipzig University – large multidisciplinary epidemiological project





Educational laboratories

- Laboratory of physiology and pathophysiology
- Laboratory of physiology and pathophysiology
- Laboratory of Basic and Clinical Anatomy
- Laboratory of Histology and Embryology
- Laboratory of Experimental and Clinical Pharmacology





Patent

- Patent application no. P.449748 **Lyophilisate from Cornelian cherry (*Cornus mas* L.)** fruit for use in the prevention of hypoxia, 2024, Originator and co-author: Prof. Tomasz Sozański, Department of Preclinical Sciences, Pharmacology and Medical Diagnostics. The invention was awarded a gold medal at the International Competition of Inventions and Innovations Eureka International Paris 2024

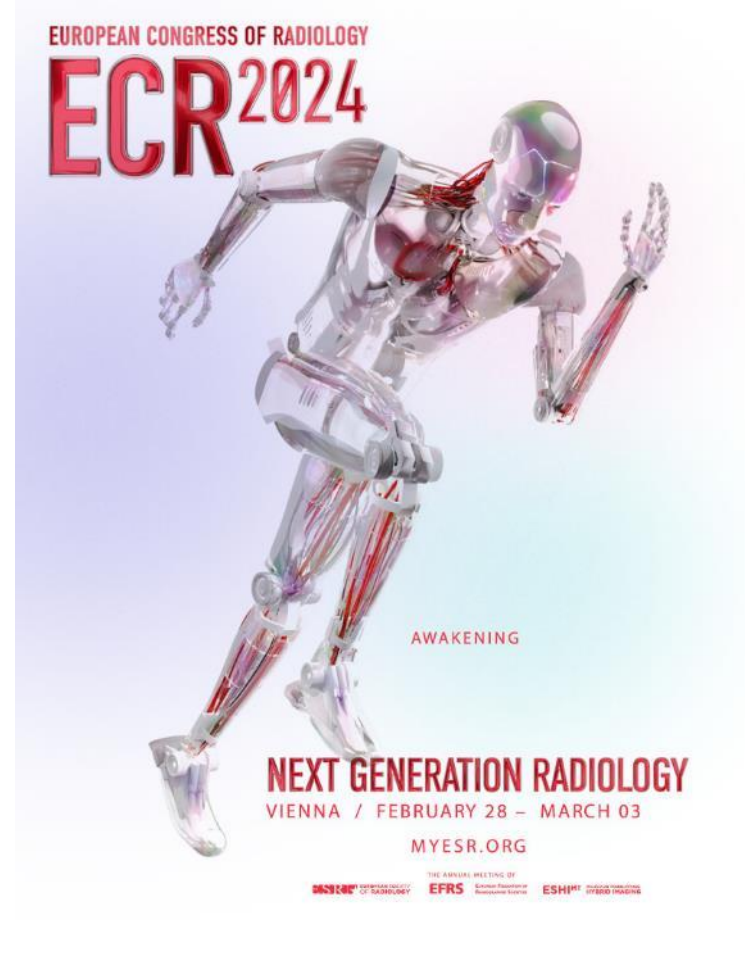




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Conferences organised and co-organized by the Faculty

- III Conference of the Wrocław Branch Polish Cardiac Society
- Project “Ethics in Dementia” workshops and lectures
- European Congress of Radiology



Dolnośląski Szpital Specjalistyczny im. T. Marciniaka - Centrum Medycyny Ratunkowej wraz z Brokerem Ubezpieczeniowym Mentor S.A. zapraszają na konferencję:

EKSPERYMENTY MEDYCZNE

- TEORIA A PRAKTYKA



▶▶ **18 listopada 2024 r.** / godz. 10:00
Dolnośląski Szpital Specjalistyczny im. T. Marciniaka
- Centrum Medycyny Ratunkowej
Audytorium I piętro



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Studies in cooperation with foreign universities

**PhD Student Exchange and Collaborative Research
in collaboration with Ariel University in Israel.**

A key focus is the development of AI algorithms for building 3D models in medicine, which can be applied to diagnostics and treatment planning.



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Projects

A mathematical brain model for neurosurgeons.

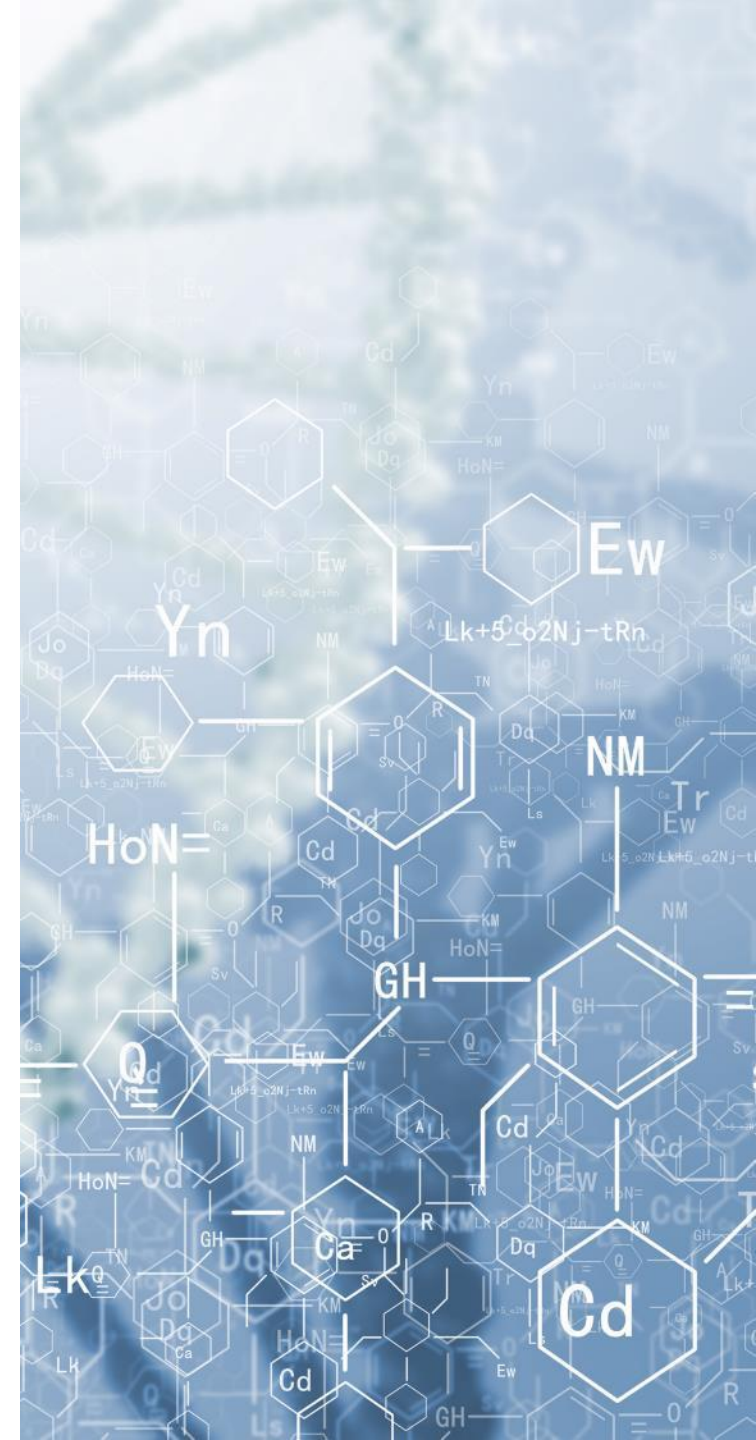
Dariusz Szarek, MD, PhD from Wrocław Tech's Faculty of Medicine and Prof. Marcin Magdziarz, Dean of the university's Faculty of Mathematics work together on the 3D brain model to help patients.





Projects

The Medical Research Agency has awarded our university a grant of 14.5 million PLN for the **MURDER-AF research experiment**. The project, dedicated to finding a new method of treating atrial fibrillation, will be carried out in collaboration with the 4th Military Clinical Hospital in Wrocław.





Research Projects

- ETUDE programme – Encompassing Training in functional Disorders across Europe
- Horizon Europa Programme coordinated by Faculty of Medical Sciences, University Medical Center Groningen, the Netherlands





Student activities

- Surgical Scientific Students Club
- Orthopedical Scientific Students Club
- Cardiological Scientific Students Club
- Scientific Students Club of Cardiovascular Imaging
- Scientific Students Club of Toxicology and Forensic Medicine





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