



Politechnika
Śląska



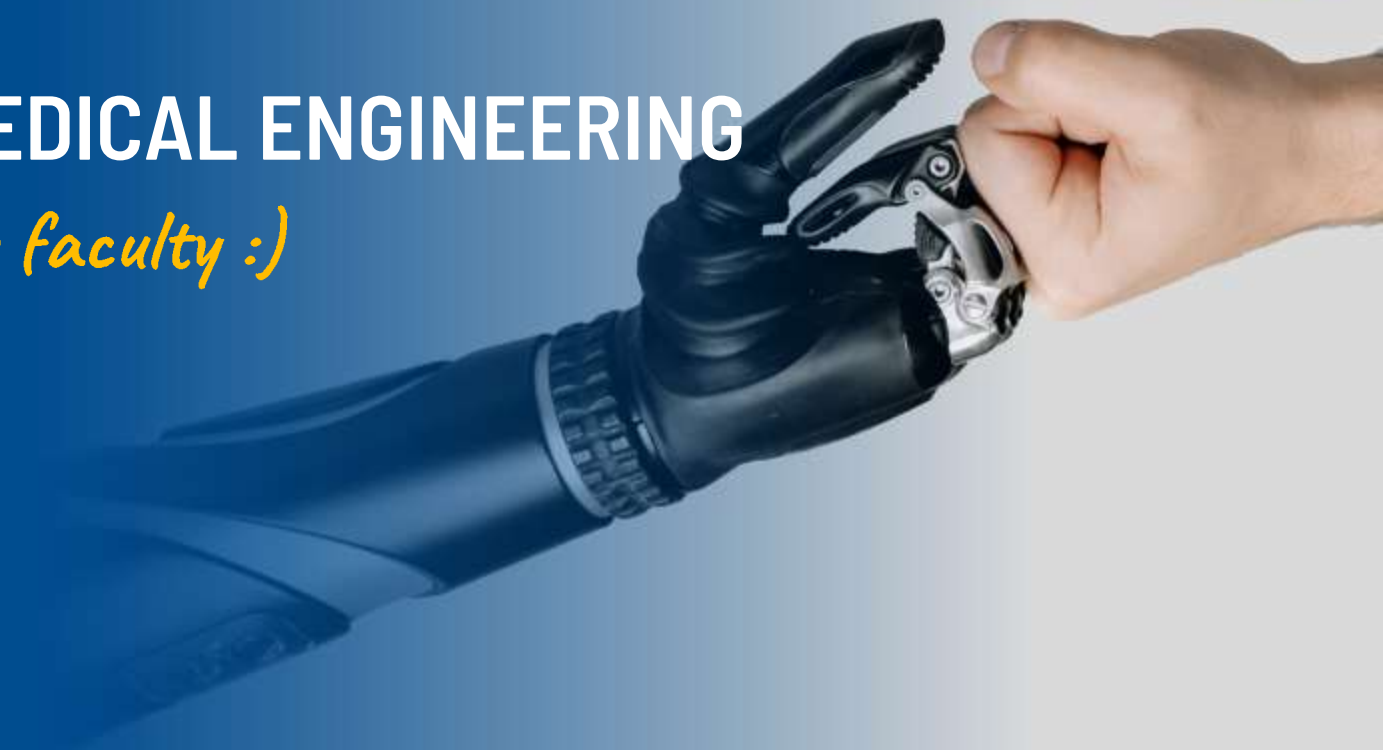
UCZELNIA
BADAWCZA
ALBERTA TRUBA 2193



Wydział Inżynierii
Biomedycznej

FACULTY OF BIOMEDICAL ENGINEERING

A few words about the faculty :)



Faculty of Biomedical Engineering

Silesian University of Technology

ZABRZE
here we are!



KATOWICE
*capital and largest city
of Upper Silesia*

GLIWICE
*headquarters
of the Silesian University of Technology*



University campus in Zabrze





The only faculty of
Biomedical Engineering
in Poland



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BADAWCZA
Techniczno-Technologiczna



Instytut Inżynierii
Biomedycznej

Fields of study



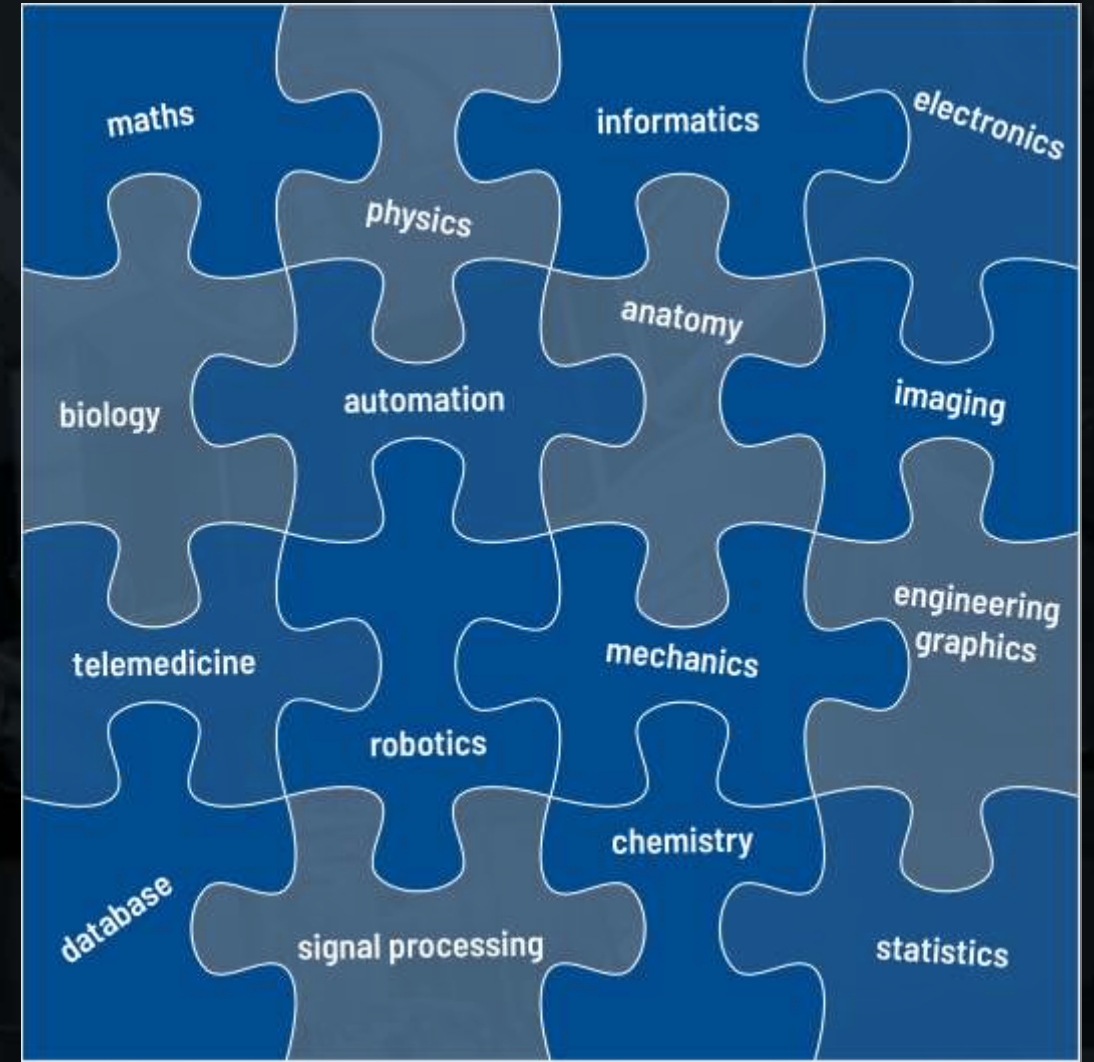
The only faculty of
Biomedical Engineering
in Poland



Biomedical Engineering

is an interdisciplinary field of study

Synergy of knowledge and skills from various fields



Education system

major: Biomedical Engineering



First-cycle studies – Bachelor level
7 semesters



Medical Informatics and Artificial Intelligence



Biomaterials and Technologies for Medicine



Design of Biomechatronic Devices



Electronics and Medical Devices

Second-cycle studies – Master level
3 semesters



Informatics in Medicine



Design and Manufacturing of Medical Products



Biomechatronics and Medical Equipment



Medical Engineering

Graduate profile

Who can you become after graduation?



Programmer
AI specialist



Rehabilitation and sport
biomechanical engineer



Manufacturer of medical
products and equipment



CAD designer



Advisor in healthcare
consulting units



Dynamic simulation
engineer



Self-employed,
StartUp



Medical equipment
service technician



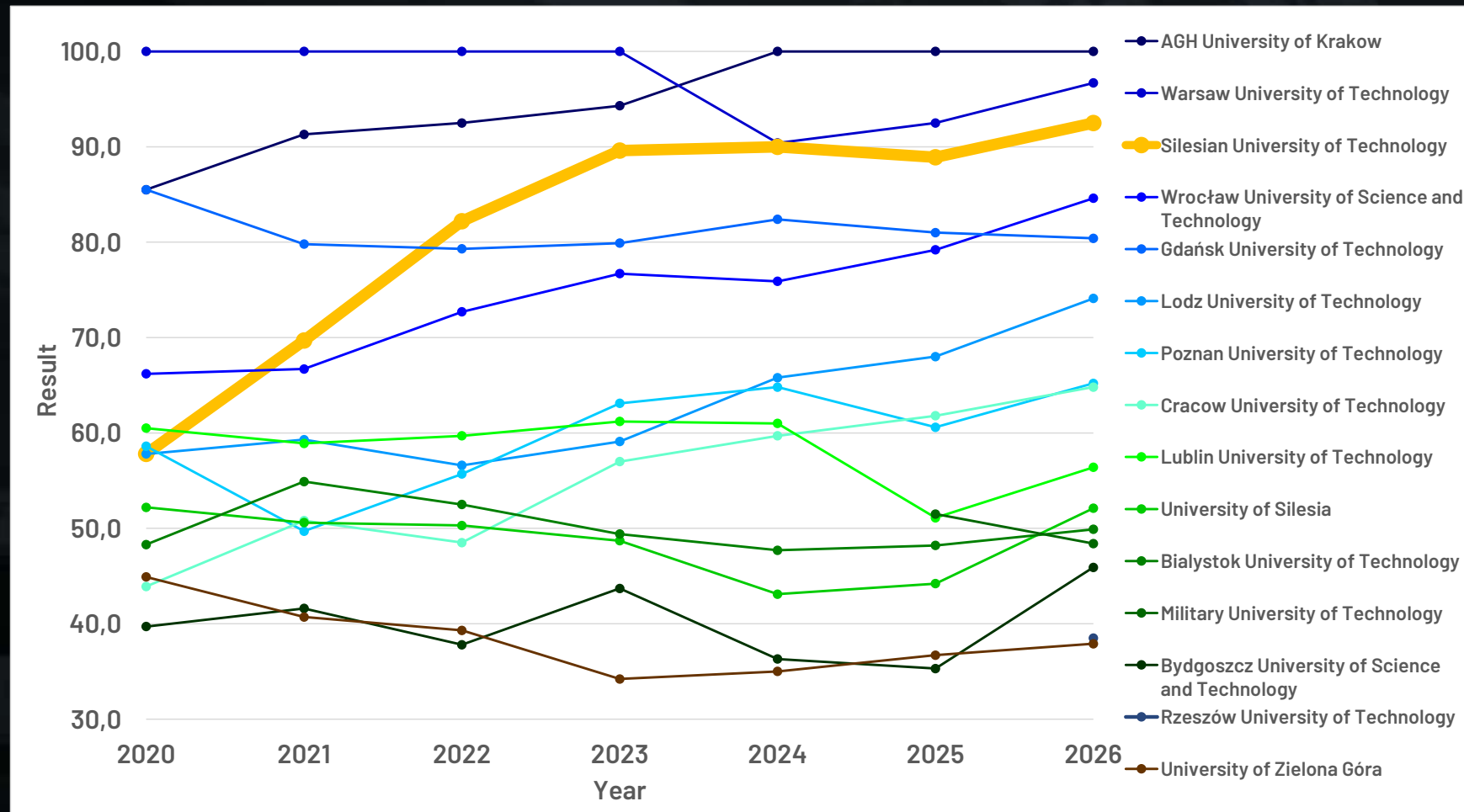
University or research
institute employee

Our BE in the „Perspektywy” ranking

UNIVERSITY RANKING

Perspektywy

2026





Silesian University
of Technology



RESEARCH
UNIVERSITY
EXCELLENCE INITIATIVE



Faculty of
Biomedical Engineering

Biomedical Engineering with the Education Excellence Certificate



POLITECHNIKA
ŚLĄSKA
WYDZIAŁ INŻYNIERII
BIOMEDYCZNEJ



Polish
Accreditation
Committee

Engineering Technologies in Forensics

a new field of study!

CSI-Zabrze.pl



First-cycle studies – Bachelor level

7 semesters



Studies conducted in cooperation with:

- Department of Forensic Medicine and Forensic Medical Toxicology
of the Silesian Medical University in Katowice,
- Forensic Laboratory
of the Police Headquarters in Katowice



The second major in Poland

providing an engineering degree in forensics!



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Wydział Inżynierski
Biomedycznej

What will you learn?

major: Engineering Technologies in Forensics

CSI-Zabrze.pl



informatics



biometry



imaging techniques



cybersecurity



phonoscopy



materials science



artificial intelligence



mechanoscopy



forensic genetics



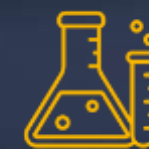
traseology



forensic medicine



ballistics



forensic chemistry

Graduate profile

CSI-Zabrze.pl

Who can you become after graduation?



Forensic and research laboratories



Cybersecurity



Additive technologies (3D printing)



Public service



Digital data recovery



Data analytics



Court expert



Integration of systems and technologies



Technology audit

Engineering Technologies in Forensics

CSI-Zabrze.pl



Engineering Technologies in Forensics

CSI-Zabrze.pl



Faculty authorities

Dean
of the Faculty of Biomedical Engineering

dr hab. inż. Marcin Basiaga, prof. PŚ

Vice-Dean for
Infrastructure and Organization

dr inż. Kamil Jozsko



Vice-Dean for
Student Affairs and Education

dr inż. Piotr Zarychta

Vice-Dean for
Science and Cooperation

prof. dr hab. inż. Paweł Badura



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Instytut Inżynierii
i Inżynierii

Faculty units

various directions of development!



Department of Medical Informatics and Artificial Intelligence

Head of the department: dr hab. inż. Joanna Czajkowska, prof. PŚ



Department of Biomaterials and Medical Device Engineering

Head of the department: dr hab. inż. Marcin Basiaga, prof. PŚ



Department of Biomechanics

Head of the department: prof. dr hab. inż. Marek Gzik



Research areas | Department of Medical Informatics and Artificial Intelligence



IT systems
Programming engineering



Artificial intelligence



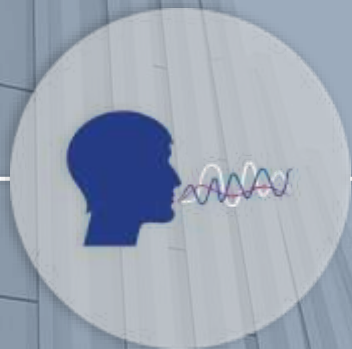
Computer-aided diagnosis



Image processing
Image navigation



Biometry



Speech analysis and synthesis



Hybrid imaging
techniques



Support for minimally invasive surgery



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Biomedycznej

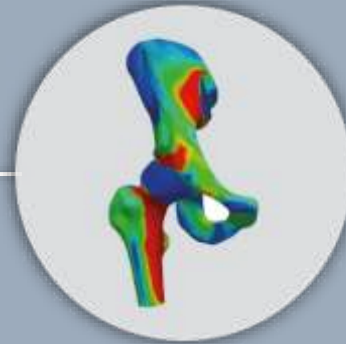
Research areas | Department of Medical Informatics and Artificial Intelligence



Biomedical signal processing



Bioinformatics
and computational biology



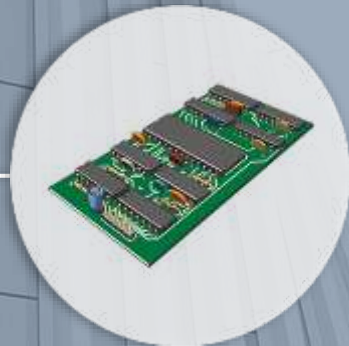
Modeling of biological structures
and processes



Machine learning



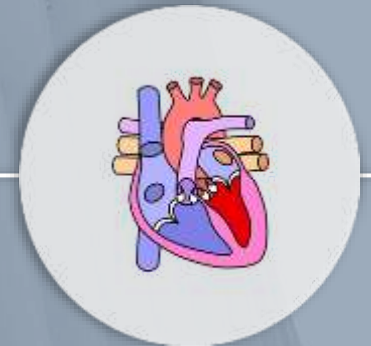
Biomorphic materials



Designing digital circuits for medicine



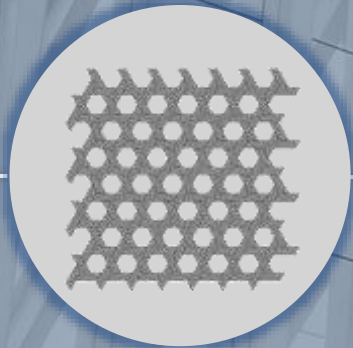
Tissue and genetic
engineering



Artificial organs



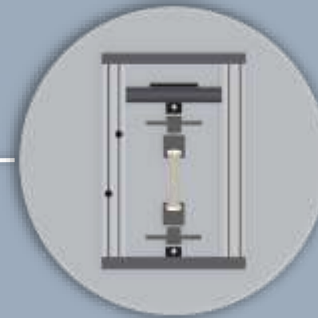
Research areas | Department of Biomaterials and Medical Device Engineering



Shaping the structure and properties of engineering materials



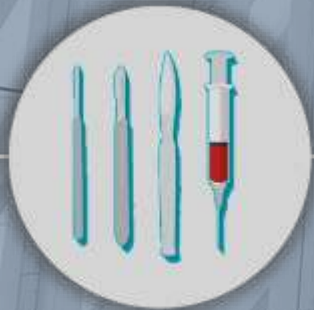
Selection of materials and manufacturing technology



Assessment of mechanical properties of engineering materials



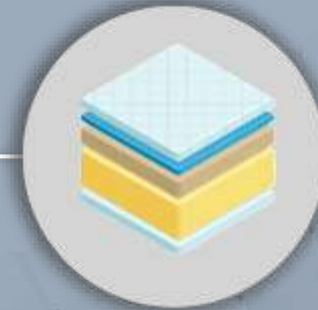
Development of prosthetics and implantology



Design of surgical instruments



Rapid prototyping in medicine



Surface engineering



Medical device evaluation procedures



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Wydział Inżynierii Biomedycznej

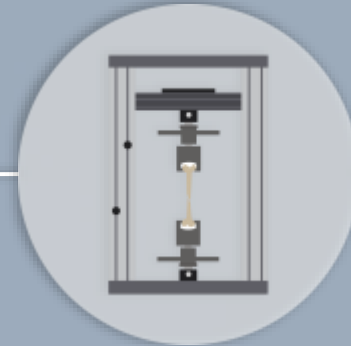
Research areas | Department of Biomechanics



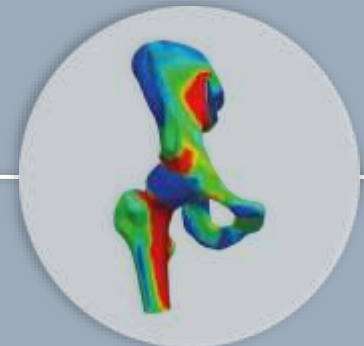
Studies of the human musculoskeletal system in medicine and sport



Rehabilitation and sports design



Experimental strength tests



Static and dynamic strength analyzes



Modeling and experimental studies of blood vessel flows



Biomechanical analysis of loads during road accidents



Virtual technologies in medicine



Planning of surgical procedures



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Cooperation with industry and research centers

PHILIPS

APAGROUP
YOUR TECHNOLOGY. REINVENTED.



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UNIVERSITY OF HOUSTON

American Heart of Poland



NYENRODE BUSINESS UNIVERSITEIT

accenture

CHIRMED®

Radpoint.



FUNDACJA ROZWOJU KARDIOCHIRURGII im. prof. Zbigniewa Religi



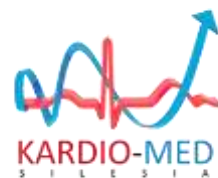
ProfiMedical
Profesjonalna Aparatura Medyczna



TU/e
Technische Universiteit Eindhoven University of Technology



msdn Academic Alliance



Narodowy Instytut Onkologii
Im. Marii Skłodowskiej-Curie Państwowy Instytut Badawczy Oddział w Gliwicach

UNIVERSITÄT SIEGEN



CABIOMEDE
MEDICAL ENGINEERING



WAT Wojskowa Akademia Techniczna

MAIS

EGZO Tech

BetaMed
CENTRUM MEDYCZNE

MESCO

Technomex

Rehaforma®

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SCGS ZABRZE ŚLĄSKIE CENTRUM CHOROÓB SERCA W ZABRZU

robotcam

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Student zone

Est. 2025



Student zone

Est. 2025



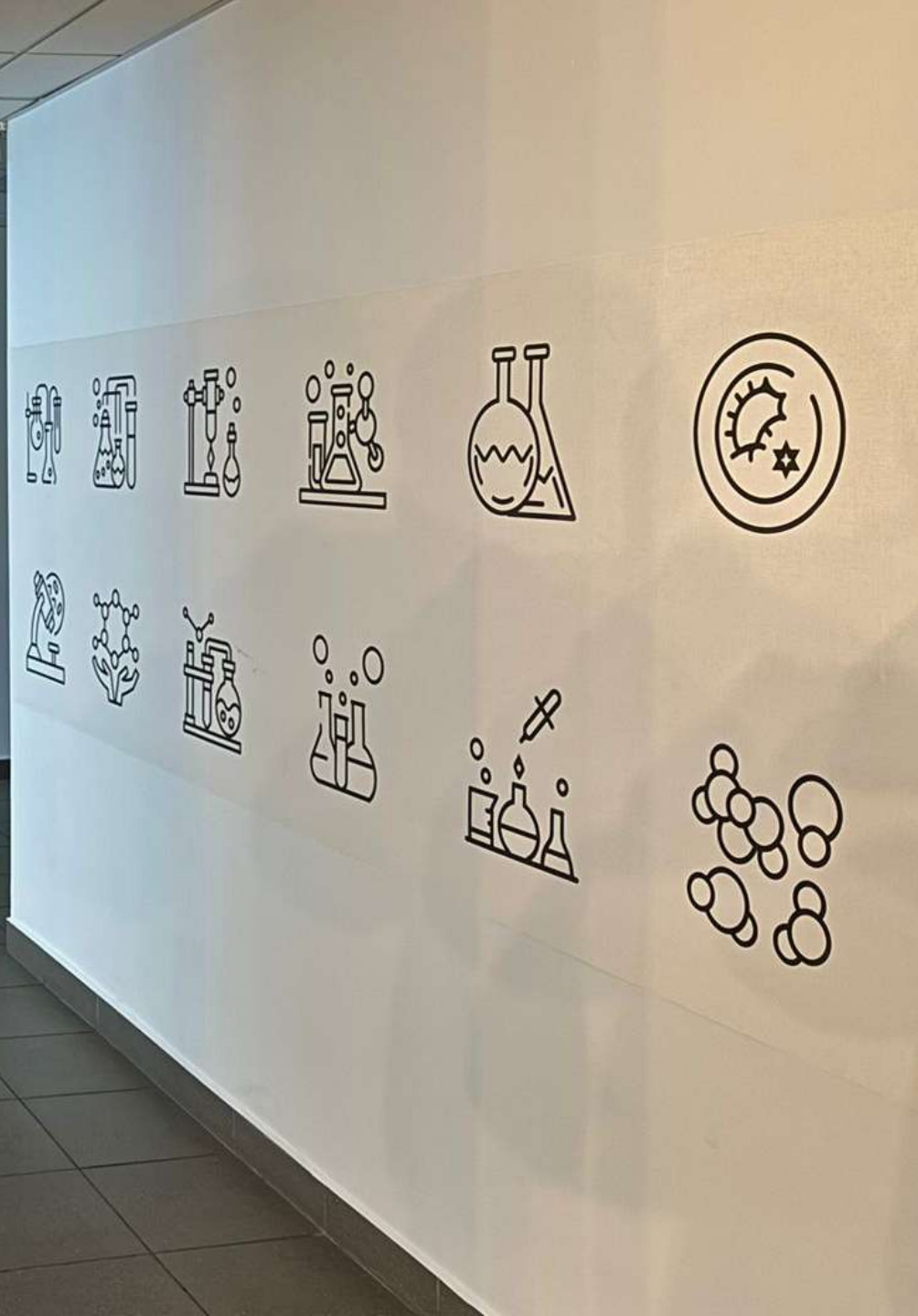
Student zone

Est. 2025



Student zone

Est. 2025



Student scientific clubs

expand your passions!



Are you interested in programming, AI or Robotics? Come to us - together we will create the future!



BIOKREATYWN!

The most active scientific club at the Faculty. Only with us the most interesting projects and the opportunity to be a real scientist!



SYNERGIA

Research on biomaterials, CAD certificates, your ideal scientific publications - it's possible thanks to the activity in our club!



We increase your competences in the field of medical technologies!



Collaboration areas



Informatics
including AI



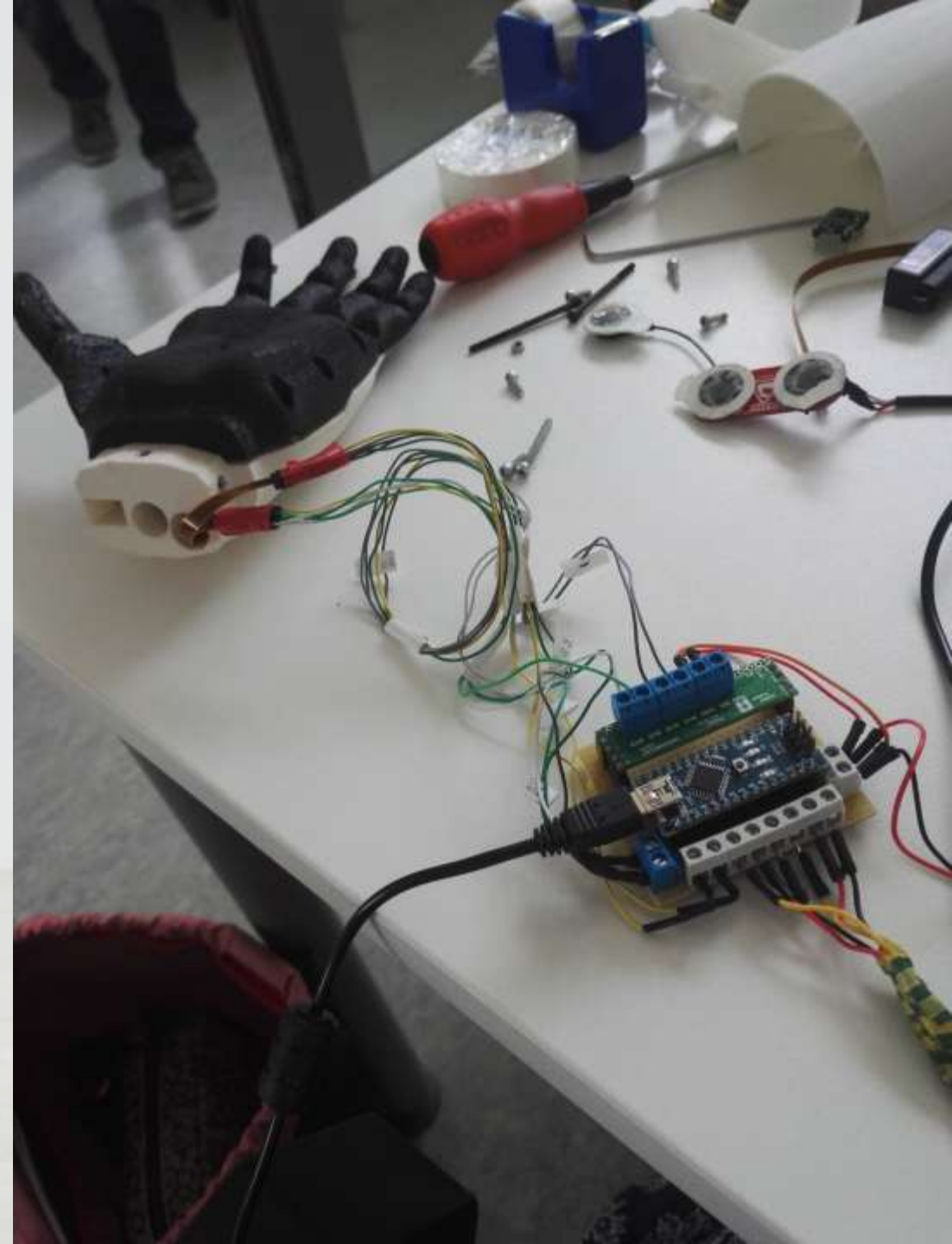
Electronics
microcontrollers



Databases

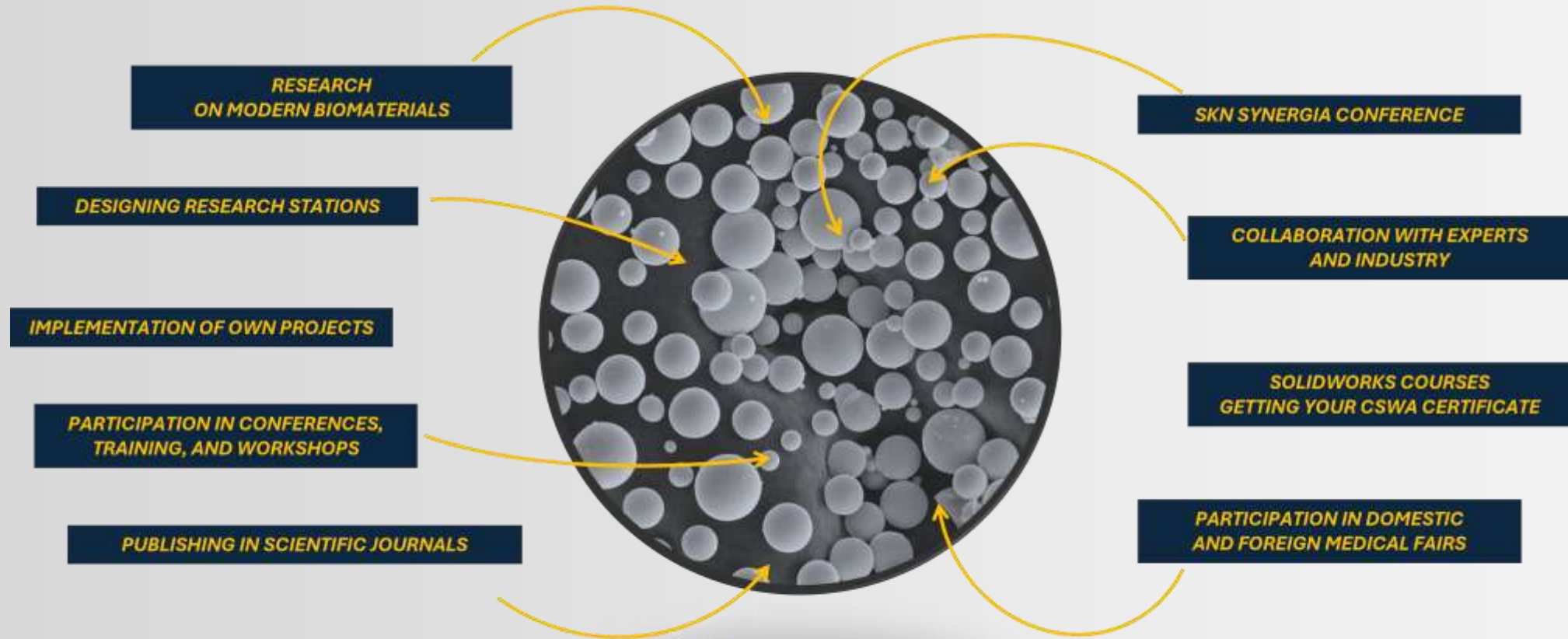
Our projects

- ✓ Virtual operating room – interactive VR simulator
- ✓ A device for monitoring the level of anesthetics in the blood
- ✓ A sensor for detecting concentrations of selected substances in the blood
- ✓ Skeleton-based biometric identification
- ✓ Semi-automatic device for measuring osmotic resistance of erythrocytes
- ✓ Functional eye prosthesis
- ✓ Injury prevention in skating
- ✓ ... and many others.



Are you interested in **modern** materials in medicine?

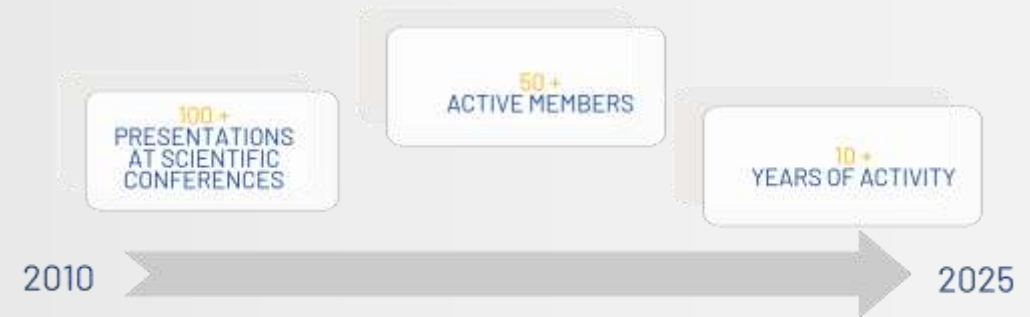
Do you want to work on **innovative** solutions for medical devices?



Rozwijaj z Nami swoje umiejętności w praktyce!

Biomechatronics SKN

BIOKREATYWNI



What are our goals?

Solving problems in biomechatronics, engineering biomechanics, and related sciences, through participation in conferences, courses, trips to fairs and carrying out own projects

Our research areas

- STRENGTH ANALYSES
- VIRTUAL TECHNOLOGIES IN MEDICINE
- DESIGN IN REHABILITATION, SPORTS, AND OTHER
- SURGICAL PROCEDURE PLANNING
- HUMAN MUSCULOSKELETAL SYSTEM RESEARCH IN MEDICINE AND SPORT
- EXPERIMENTAL STRESS TESTS



BIOKREATYWNI



What do we do?

- Broaden knowledge
- Develop passions
- Implement ideas
- Attend scientific conferences
- Publish research papers
- Help those in need



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Wydział Inżynierii
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IEEE Silesian University of Technology Student Branch

at the Faculty of Biomedical Engineering



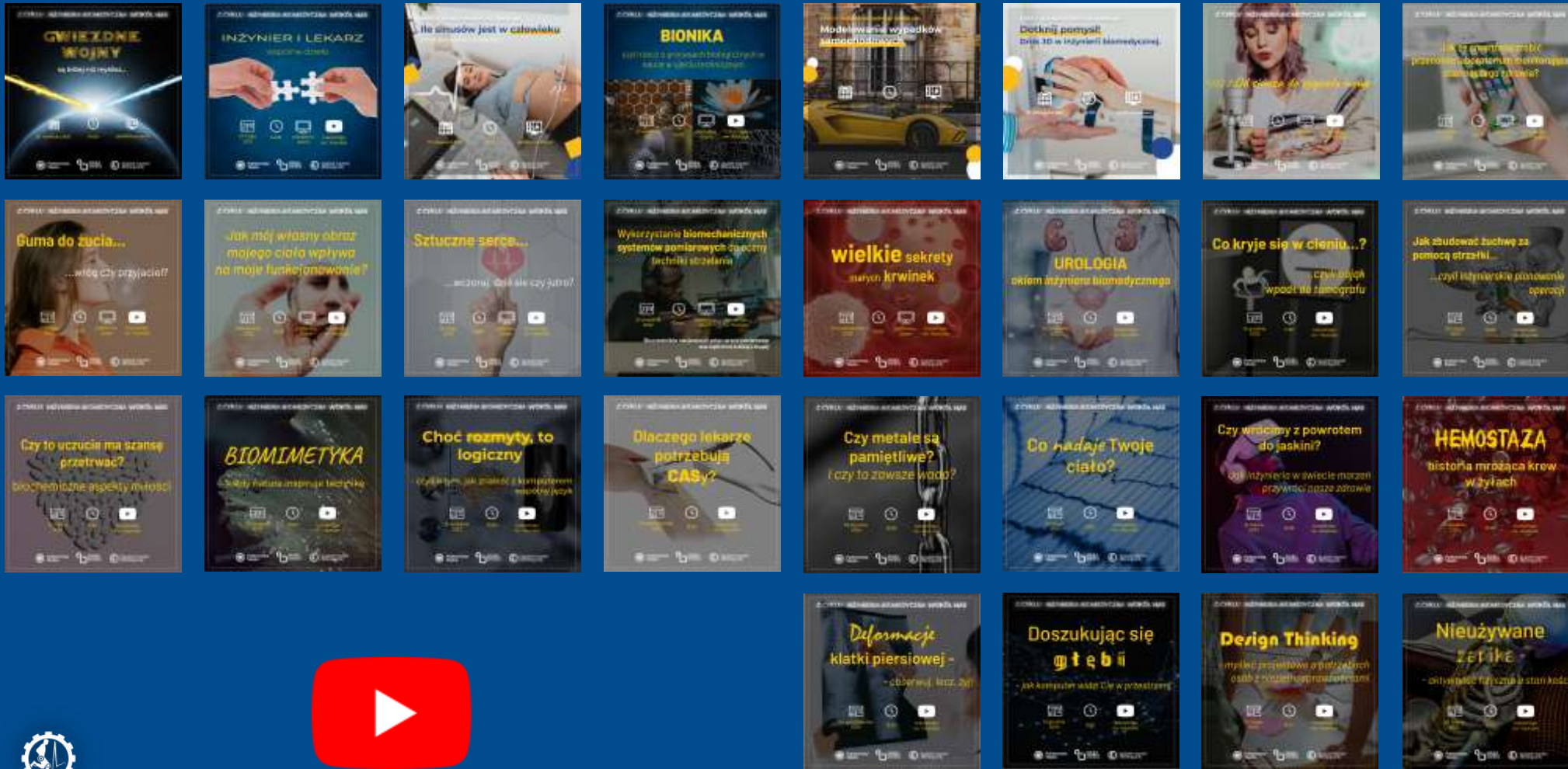
- Conferences
- Networking meetings
- Educational initiatives
- Mentoring programs
- International community



Biomedical Engineering Around Us

a series of popular science lectures (in Polish! 🇵🇱)

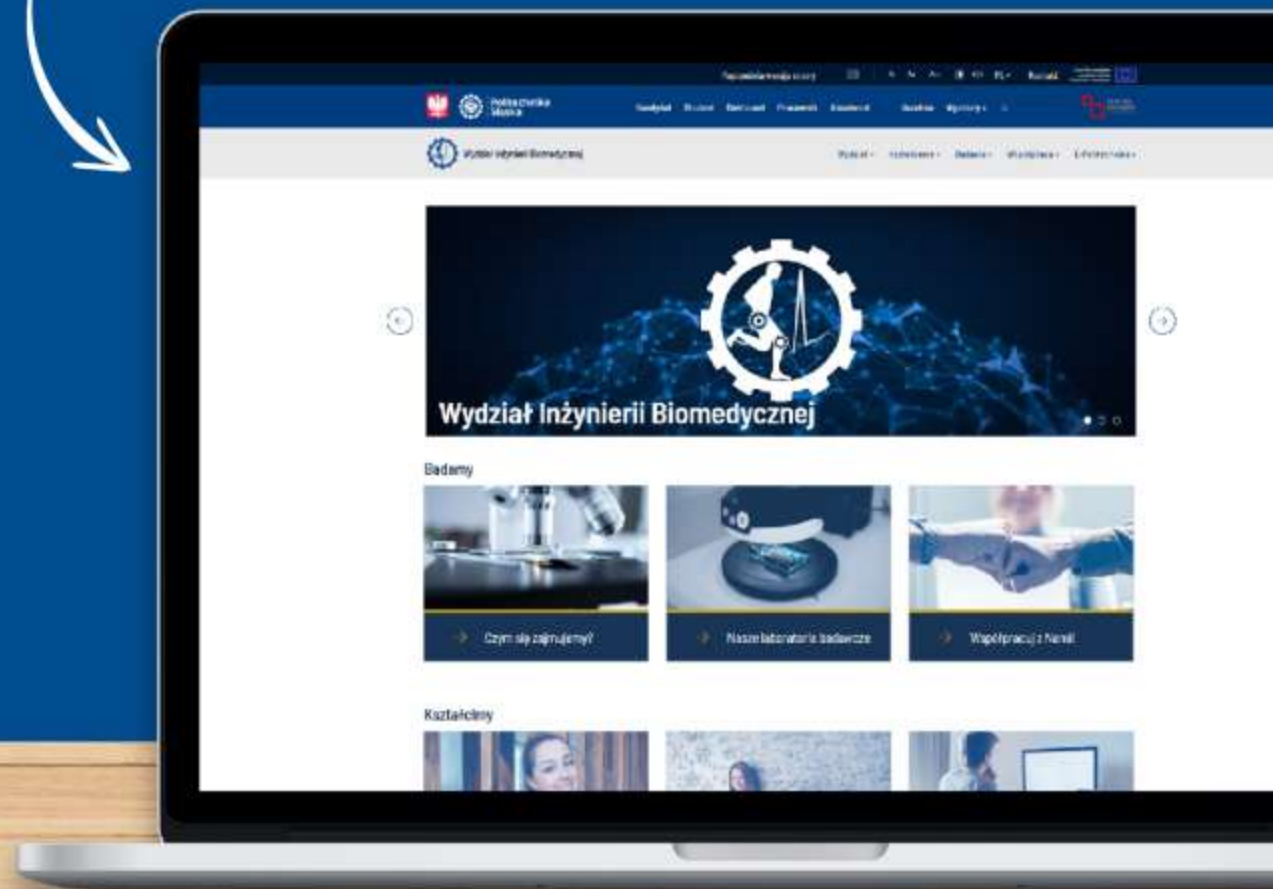
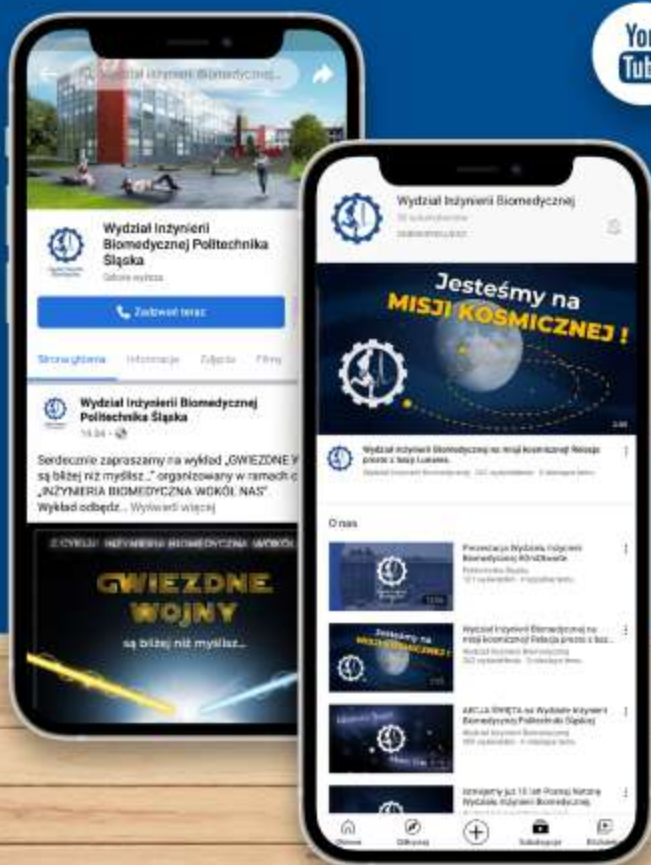
Z CYKLU: INŻYNIERIA BIOMEDYCZNA WOKÓŁ NAS



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*Spread your wings
with us*



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