



MEDICAL UNIVERSITY
OF BIALYSTOK

Medical University of Białystok

What can we do
for/with EUNICE European University

November 5th, 2024





MEDICAL UNIVERSITY
OF BIALYSTOK



230

YEARS OF MEDICAL TRADITION



16

FIELDS OF STUDY



6

RESEARCH CENTRES



900

ACADEMIC
TEACHERS



6000

STUDENTS



500

ENGLISH-
SPEAKING
STUDENTS



30000

GRADUATES



**MEDICAL UNIVERSITY
OF BIALYSTOK**

Centre for Medical Simulation

Polish Database of High-Definition Medicine



We have been one of the few Polish universities that has been a leader of Horizon MSCA 2020 programme

**„International Interdisciplinary PhD studies
in Biomedical Research and Biostatistics.
Supporting the career and training in omic-based research and
biostatistics by international and intersectoral mobility”**



**ImPRESS
Horizon 2020
H2020-MSCA-COFUND**



Be ImPRESSed!

INTERNATIONAL INTERDISCIPLINARY PhD STUDIES

in Biomedical Research and Biostatistics!

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 754432 and the Polish Ministry of Science and Higher Education, from financial resources for science in 2018-2023 granted for the implementation of an international co-financed project.



Some (but not all) areas of collaboration

- **Artificial intelligence in medicine (cancer, cardiovascular, infectious diseases etc.)**
- **Genomics/Big data analysis**
- **Prevention of diseases/Personalized medicine**
- **Effects of environment, social status, economy, life style, diet etc. on health**
- **Materials for medical devices**
- **Virtual reality**
- **Nanotechnology**
- **Health care policy**
- **And many others...**



What's so unique about Medical University of Białystok?

- High quality basic and clinical science
- Polish leader in restrictive, high quality **biobanking**
- Unique **cohort studies**: 10 000 participant population study, unique cohorts of thousands of patients with cancer, cardiovascular, metabolic, neurodegenerative diseases
 - Polish leader in **whole genome sequencing**
- Unique **Polish Database of HD Medicine** (one-in-the-world „everyomics” database encompassing thousands of patients)
- Polish leader in **bioinformatics and artificial intelligence in medicine**



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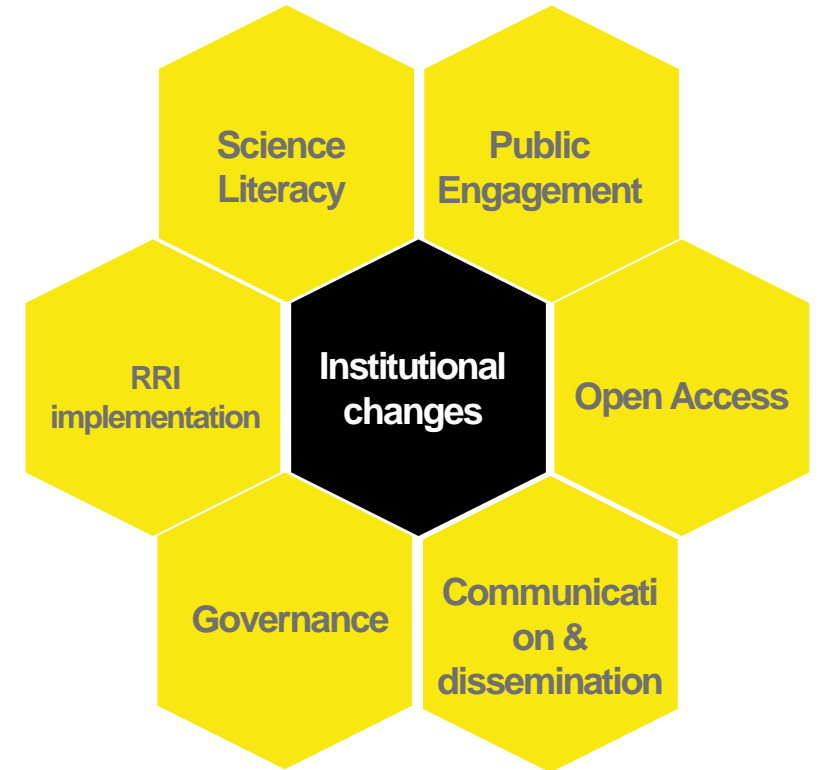
BIAŁYSTOK+ Polish Longitudinal University Study

Our big cohort study: Białystok PLUS



The aim of the BIAŁYSTOK PLUS study is to reveal the role of lifestyle, dietary and environmental factors in the development and progression of common diseases, as well as to investigate the interrelations between common diseases.

Polish
Longitudinal
University
Study



implementation of institutional changes to make Responsible Research and Innovation (RRI) sustainable



The aim of the BIAŁYSTOK PLUS study is to reveal the role of lifestyle, dietary and environmental factors in the development and progression of common diseases, as well as to investigate the interrelations between common diseases.



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„Join Us To Optimize Health Through Cohort Research” (H2020) - collaboration of 3 cohort studies

joinUs
FOR health

Your place in Białystok population

Fill in your details

Gender
 Male Female

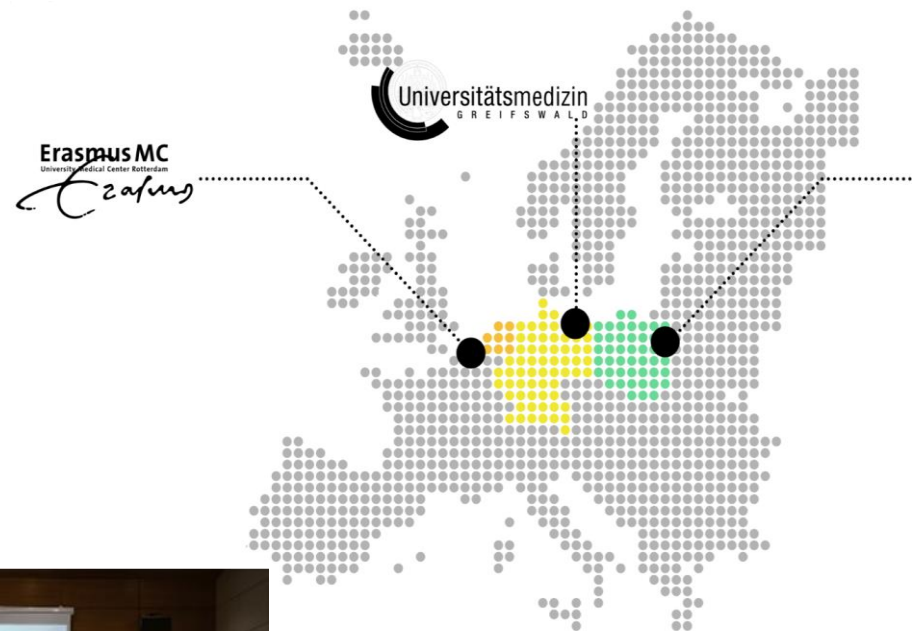
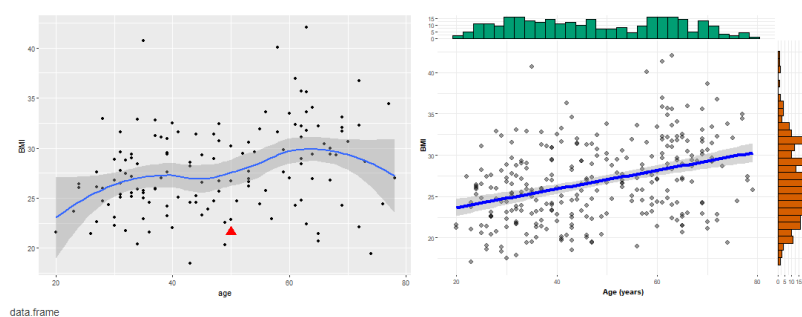
Age
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Choose interesting variable:
BMI

Height [cm]
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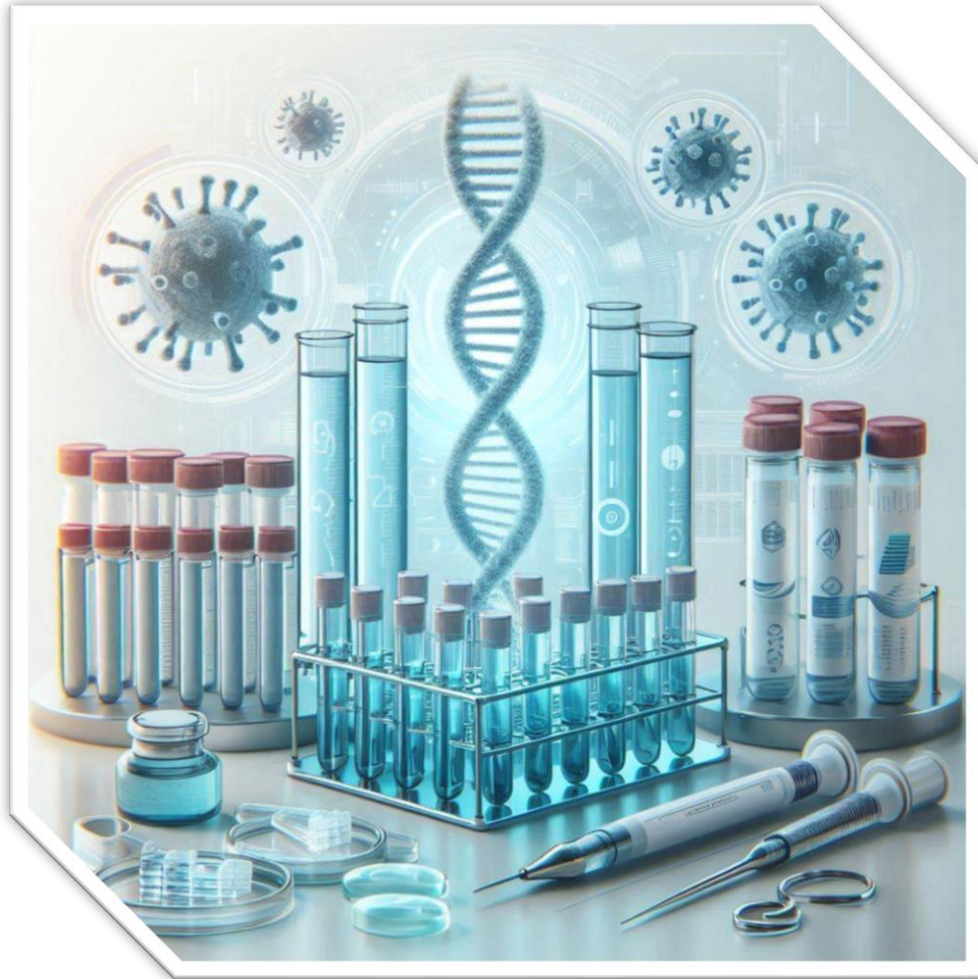
Weight [kg]
45 70 250

Show:
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 correct range
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 Add line trend



JoinUs4Health is funded by the Horizon 2020 Framework Programme of the European Union under Grant Agreement No. 101006518

Precision Medicine & Genomics



- Cutting-edge next-generation sequencing (NGS), cancer genomics, and transcriptomics, driving breakthroughs in oncology and beyond;
- Emphasizing ethical considerations and legal frameworks in genomic research, ensuring responsible innovation.



MUB BIOBANK



- Storing vast amounts of data related to the collected biological samples for prospective medical research, pre-clinical and clinical trials, and drug development



Clinical Data



Clinical Diagnostics



Clinical Partners



Digital Pathology



Genomics



Transcriptomics



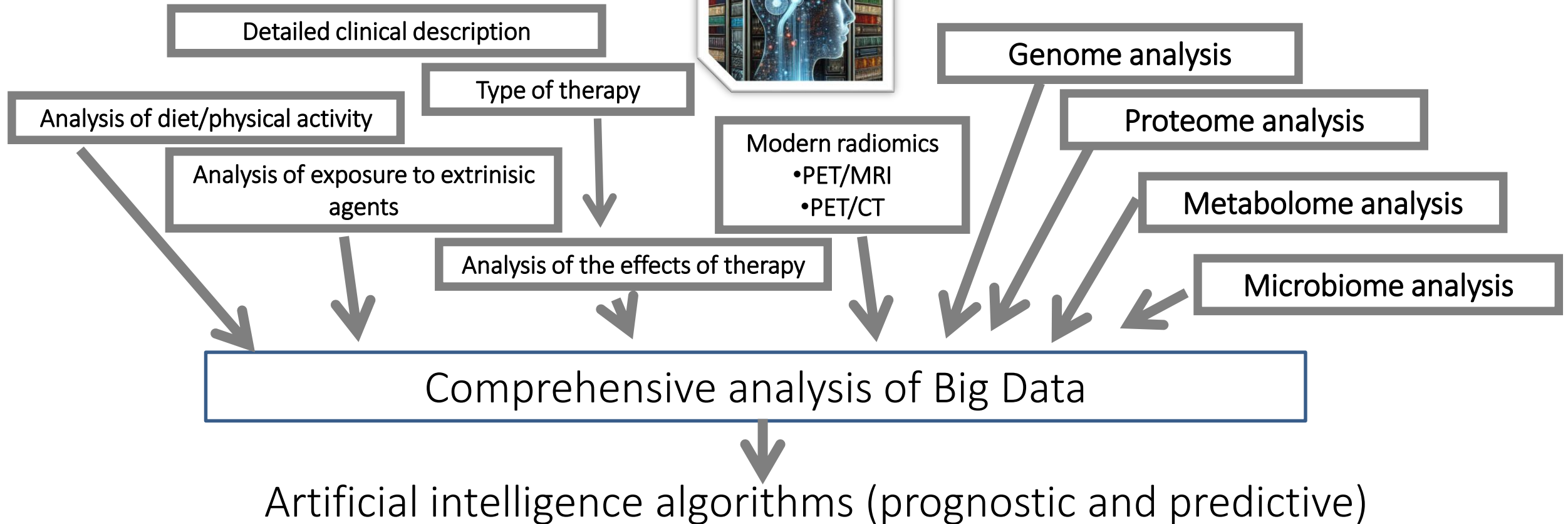
Metabolomics



Computational Bioinformatics

PERSONALIZED AND PRECISE MEDICINE

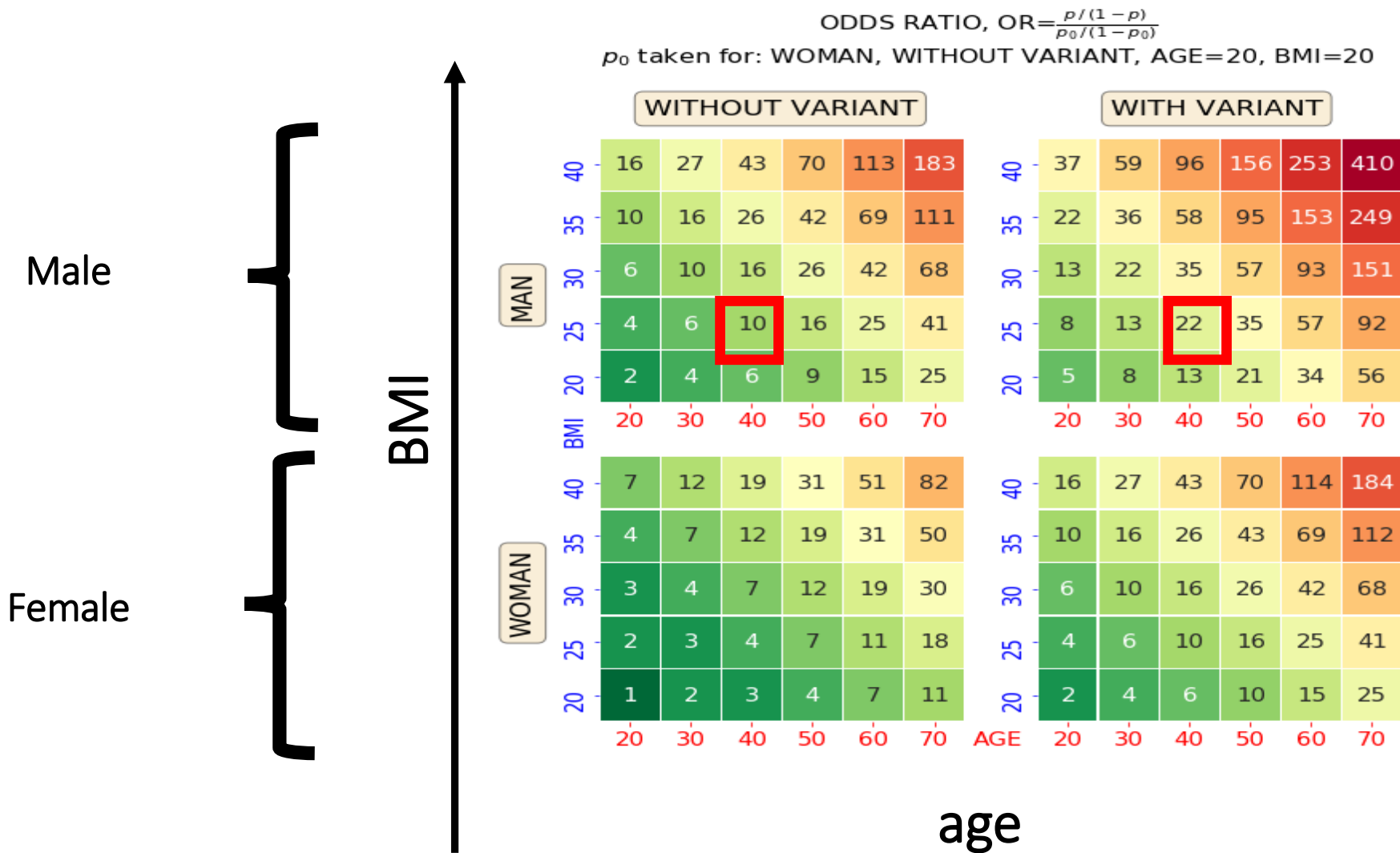
How to develop truly working tools of artificial intelligence?



**Polish Center for
Artificial Intelligence in Medicine
at Medical University of Bialystok**

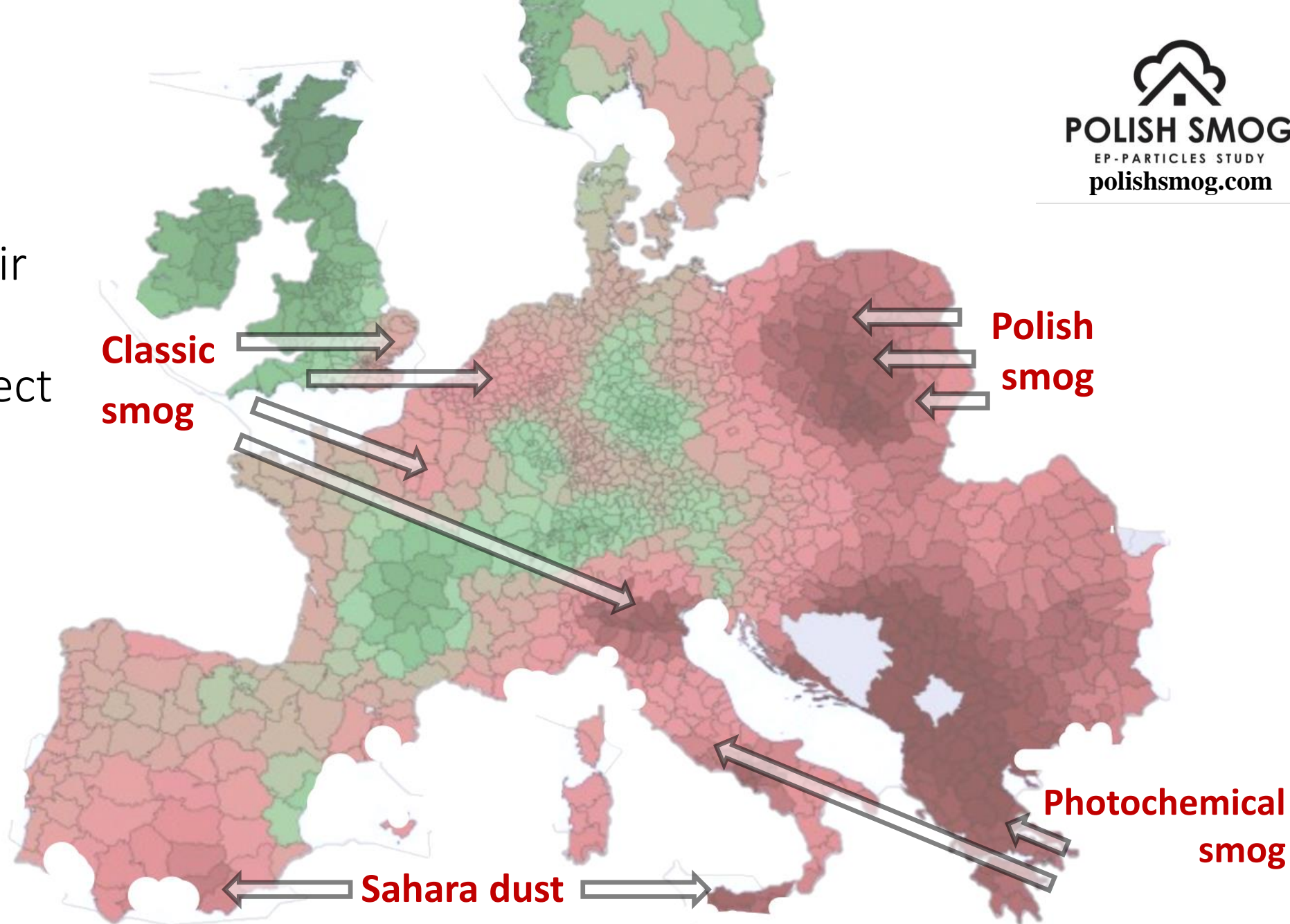


What does really decide on the risk of severe COVID-19?



Different types of air pollution lead to different health effects

Polish smog - a specific type of air pollution is characterized by high concentrations of PMs and low emission. Its formation is favored by high atmospheric pressure and low temperature, especially in winter.



Tick-borne diseases



National Science Centre

- Comprehensive analysis of factors determining the course and clinical outcomes of tick-borne encephalitis
- Use of multiomics research to assess the metabolic consequences of tick-borne diseases

- Diagnostics and Treatment of patients from **all over Poland** with tick-borne diseases
- **Assessment of the Impact of Testing Access on the Detection of Tick-Borne Encephalitis (TBE) in Poland**
- **BOLD (Burden of Lyme Disease)** Epidemiological study of potential Lyme disease cases

Participation in the clinical trial on VLA15, a 6-valent OspA-based **vaccine against Lyme disease** caused by *Borrelia burgdorferi*





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The Experimental Medicine Centre

- Breeding of laboratory animals in SPF (Specific Pathogen Free) status
- Pre-clinical studies performed on laboratory animals, cell cultures or isolated organs
- Animal testing performer
- According to GLP standard for toxicity testing


PRESIDENT OF THE BUREAU
FOR CHEMICAL SUBSTANCES

BSCh-DPL.50.34.2023.MU

GOOD LABORATORY PRACTICE CERTIFICATE

Registration number: 31/2023/DPL

Pursuant to article 16 (4) of the Act of 25 February 2011 on the Chemical Substances and their Mixtures (Journal of Laws 2022, item 1816), on the basis of the periodic inspection and verification which were held on October 25-26, 2023 and in accordance with the provisions specified in the Regulation of the Minister of Health of 03 August 2021 on Good Laboratory Practice and Performance of Studies in Compliance with the Principles of Good Laboratory Practice (Journal of Laws 2021, item 1422), as well as in accordance with Directive 2004/9/EC and the relevant OECD documents, it is hereby confirmed that

**Center of Experimental Medicine
Medical University of Białystok**

24 A Marii Skłodowskiej-Curie St
15-276 Białystok
Poland

complies with the OECD and the EU principles of Good Laboratory Practice in the field of:

— **toxicity studies.**

The certificate is valid from December 19, 2023.

GLP Inspectors


Marek Ubraniak (M. Sc.)
(Lead GLP inspector)


Karolina Dubrawska-Gawron (M. Sc.)
(GLP inspector)



**President of the Bureau
for Chemical Substances**


Agnieszka Dudra (PhD, Eng.)



The functional food



- Designing new functional products with confirmed (also by clinical trials) properties;
- Conducting studies similar to clinical trials – nutritional interventions with the use of tested products;
- Cooperating with the food industry sector – joint R&B projects;
- Executing implementation projects.





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Gender Equality - Initiative at MUB



- Aiming to **promote gender equality** in the organization through a process of structural changes;
- Offering the support tailored to the **individual needs** of our community members;
- **Networking and collaboration opportunities** in: training, policymaking and applying for funding.



**MEDICAL UNIVERSITY
OF BIALYSTOK**

Thank you



RECTOR

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