



**KRAKÓW
2025**

6th Central European Biomedical Congress

**Integrating Neuropharmacology
and Bioinformatics with AI**

Kraków, Poland, July 22-24, 2025

PROGRAM



ORGANIZERS



Maj Institute of Pharmacology
Polish Academy of Sciences



JAGIELLONIAN UNIVERSITY
IN KRAKOW



UNIWERSYTET JAGIELLOŃSKI
COLLEGIUM MEDICUM
W KRAKOWIE



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Table of Contents

□ Welcome Address	5
□ Scientific Committee	6
□ Organizing Committee	6
□ Invited Speakers	7
□ Inauguration and Welcome Reception	9
□ Congress Venue	9
□ Congress Dinner	9
□ Registration	9
□ Program	10
Tuesday, July 22, 2025	10
Wednesday, July 23, 2025	13
Thursday, July 24, 2025	17
□ Young Scientific Investigators' Session	20
□ Poster Sessions	21
Poster Session 1	21
Poster Session 2	24
□ Congress Venue Floor Plan	27
□ General Information	28
□ Notes	29

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Welcome Address

Dear Colleagues,

It is with great enthusiasm that we invite you to join us for the 6th Central European Biomedical Congress (CEBC), held from July 22 – 24, 2025, in the enchanting city of Krakow, Poland.

This year's theme, "Integrating Neuropharmacology and Bioinformatics with AI," promises to bring together the brightest minds in biomedicine to explore cutting-edge innovations that could transform the future of healthcare. From advanced neuroimaging and bioinformatics to AI-powered breakthroughs in diagnostics and therapy, the 6th CEBC will delve into technologies reshaping how we diagnose, monitor, and treat neurological disorders.

This Congress is more than a gathering; it is a global platform for researchers, clinicians, and innovators from diverse disciplines such as medicine, pharmacology, biotechnology, and bioinformatics. With an anticipated 400 participants, 50 distinguished speakers, and numerous opportunities to engage in workshops, poster sessions, and expert panels, the 6th CEBC is your chance to network, collaborate, and contribute to shaping the future of biomedicine.

The success of the 5th CEBC in 2023 – a hybrid event that brought together 361 participants from 19 countries, including 252 onsite attendees in Krakow – highlighted the growing impact of this Congress. Attendees enjoyed plenary lectures, poster sessions, and workshops, including dedicated events for young scientists and ERC expert sessions. Building on this momentum, the 6th CEBC is poised to offer an even more dynamic and enriching experience.

Kraków is not just the Congress venue – it's an essential part of the CEBC experience. Known as the "Cradle of Science and Culture," Kraków is a city that inspires. Immerse yourself in Krakow's breathtaking history, from the cobblestone streets of its UNESCO-listed Old Town to the iconic Wawel Castle, and explore the city's modern side with its cutting-edge architecture and lively cultural scene. It's no wonder that 12 million tourists visit Kraków yearly – here, history, culture, and science come together like nowhere else.

The 6th CEBC isn't just about attending – it's about contributing to a collective mission to advance medical science, foster collaboration, and explore the possibilities of innovation. Whether you are presenting groundbreaking research, networking with peers, or simply absorbing new ideas, the Congress offers something for everyone.

We can't wait to welcome you to Kraków, where science and culture collide in a city like no other. Let's make history together at the 6th CEBC!

Warm regards,

The Scientific and Organizing Committees of the CEBC


Malgorzata Filip, Professor, PhD, DSci
Congress President, Maj Institute of
Pharmacology, Polish Academy of Sciences


Aneta Frączek-Szczypta, PhD
Congress President, AGH University of Krakow


Joanna Pera, Professor, PhD, DSci
Congress President, Faculty of Medicine,
Jagiellonian University Medical College


Robert Filipiek, Professor, PhD
Congress President, AGH University of Krakow

Scientific Committee

Prof. Stefan Chłopicki, PhD	<i>Jagiellonian Centre for Experimental Therapeutics (JCET) Kraków, Poland</i>
Prof. Józef Dulak, PhD	<i>Jagiellonian University, Kraków, Poland</i>
Prof. Robert Filipek, PhD	<i>AGH University of Krakow, Poland</i>
Aneta Frączek-Szczypta, PhD	<i>AGH University of Krakow, Poland</i>
Michał Korostyński, PhD	<i>Maj Institute of Pharmacology, PAS Kraków, Poland</i>
Bartosz Pomierny, PhD	<i>Jagiellonian University Medical College, Kraków, Poland</i>
Katarzyna Stachowicz, PhD	<i>Maj Institute of Pharmacology, PAS, Kraków, Poland</i>
Joanna Wierońska, PhD	<i>Maj Institute of Pharmacology, PAS, Kraków, Poland</i>
Prof. Paweł Zajdel, PhD	<i>Jagiellonian University Medical College, Kraków, Poland</i>

Organizing Committee

Małgorzata Filip (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Joanna Pera (*Jagiellonian University Medical College, Kraków, Poland*)

Aneta Frączek-Szczypta (*AGH University of Krakow, Poland*)

Robert Filipek (*AGH University of Krakow, Poland*)

Members:

Helena Domin (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Agata Faron-Górecka (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Małgorzata Frankowska (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Joanna Jastrzębska (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Kamila Piotrowska (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Katarzyna Stachowicz (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Joanna Wierońska (*Maj Institute of Pharmacology, PAS, Kraków, Poland*)

Invited Speakers

Argasiński Jan K., Poland

Arias Jonathan, Lithuania

Barry David, UK

Benko Aleksandra, Poland

Bjaalie Jan, Belgium

Blyszczuk Przemysław, Poland

Borowiak Małgorzata, Poland

Chadzińska Magdalena, Poland

Chaumont-Dubel Séverine, France

Chintaluri Chaitanya, Austria

Dobrucki Wawrzyniec L., USA

Domalik-Pyzik Patrycja, Poland

Duch Włodzisław, Poland

Dulak Józef, Poland

Gawel Kinga, Poland

Ginałski Maciej, Poland

Grochala Dominik, Poland

Jawaid Ali, Poland

Jaźwa-Kusior Agnieszka, Poland

Kamiński Jan, Poland

Kamiński Tomasz, Poland

Kania Gabriela, Switzerland

Kim Eugene, UK

Koehl Muriel, France

Krätschmer Ilse, Austria

Kubiak Klaudia, Poland

Kwieciński Jakub, Poland

Kwiek Patrycja, Poland
Lewenstam Andrzej, Finland and Poland
Majka Piotr, Poland
Major Roman, Poland
Malikowska-Racia Natalia, Poland
Marin Philippe, France
Matrai Janka, Belgium
Oleksyk Taras K., USA
Padilla Rosales Isela, Poland and Mexico
Rybak-Wolf Agnieszka, Germany
Sałaga Maciej, Poland
Samulėnaitė Solveiga, Spain and Lithuania
Serrano Maria Elisa (Melisa), UK
Siegert Sandra, Austria
Sluimer Judith, The Netherlands
Soares Mesquita Michel, UK
Solarz-Andrzejewska Anna, Poland
Szyszkiewicz-Warzecha Krzysztof, Poland
Wasilewska Iga, Poland
Wielgosz Maciej, Poland and Norway
Wielowski Ryszard, Poland
Williams Steve, UK
Wierońska Joanna Monika, Poland
Wojciechowska Marta, UK
Wójcik Daniel, Poland
Xapelli Sara, Portugal
Zarychta Sandra, Poland
Zmorzyńska Justyna, Poland
Żyła Joanna, Poland

Inauguration and Welcome Reception

July 22, 2025, 17:00 – 21:00

Auditorium Maximum of the Jagiellonian University

33 Krupnicza Street, Kraków, Poland

Congress Venue

Auditorium Maximum of the Jagiellonian University

33 Krupnicza Street, Kraków, Poland

Congress Dinner

July 23, 2025, 19:00 – 21:00

Auditorium Maximum of the Jagiellonian University

33 Krupnicza Street, Kraków, Poland

Registration

The Reception Desk is located at the entrance lobby of the Auditorium Maximum of the Jagiellonian University

8:30 – 17:00

33 Krupnicza Street, Kraków, Poland

Program

Tuesday, July 22, 2025

Venue: Auditorium Maximum, 33 Krupnicza Street, Kraków, Poland

8:30 – 17:00 **Registration**

9:30 – 11:00

Session 1

Exploring disease and treatment associations in genome data banks

Chair: Michał Korostyński, PhD

Medium Hall A

Session 2

Mechanisms and modeling of non-communicable diseases

Chairs: Agnieszka Jaźwa-Kusior, PhD, Prof. Józef Dulak, PhD

Medium Hall B

S.01-1

Taras Oleksyk

Department of Biological Sciences,
Oakland University, Rochester, USA

*A study of 20 000 Type 1
Diabetes exomes in Eastern
Europe*

S.02-1

Judith Sluimer

Maastricht University Medical Center,
Maastricht, The Netherlands

*Vascular fibroblast (dys)function
as new causal mechanism
in vascular ageing and
hypertension*

S.01-2

Ilse Kratschmer

Institute of Science and Technology,
Klosterneuburg, Austria

*Separating direct, indirect, and
parent-of-origin genetic effects
in the human population using
genome data banks*

S.02-2

Gabriela Kania

University Zurich, Switzerland

*Tale of two tubes exploring
mechanisms of failing human
heart – focus on cardiac
microtissues*

S.01-3

Joanna Żyła

Silesian University of Technology, Gliwice,
Poland

*Unsupervised learning of
pathway activity importance in
individual samples: An example
from scRNA-Seq*

S.02-3

Przemysław Błyszczuk

Jagiellonian University, Kraków, Poland

*Right heart in single cell RNAseq
analysis*

S.01-4**Ali Jawaid**

Lukasiewicz Research Network –
PORT Polish Center for Technology
Development, Wrocław, Poland

*Interplay between lipid
metabolism and microRNAs
in the long-term effects and
intergenerational transmission of
childhood trauma*

S.02-4**Agnieszka Jaźwa-Kusior**

Jagiellonian University, Kraków, Poland

*Endothelial cell senescence at
the crossroads of inflammation
and vascular dysfunction*

11:00 – 11:30 Coffee break – Exhibition Room

11:30 – 11:45 **Sponsor presentation**

Celon Pharma

11:45 – 12:45 **Opening lecture**

Medium Hall

Chairs: Prof. Robert Filipek, PhD

Prof. Andrzej Lewenstam, PhD

Åbo Akademi University, Turku, Finland, AGH University of Krakow, Poland

**Fast, Automated, and Integrated: Electrochemical Sensors
and Algorithms Transforming Blood and Bioliquids Analysis**

12:45 – 13:15 Coffee break – Exhibition Room

13:15 – 14:45 **Session 3**

**Neuroinformatics,
computational neuroscience,
deep learning: perspectives on
computing and the brain**

*Chair: Prof. Krzysztof Tokarski, PhD,
Prof. Daniel Wójcik, PhD*

Medium Hall A

Session 4

**The Zebrafish Model: A Tool
for Advancing Brain Research**

*Chair: Prof. Magdalena Chadzińska, PhD,
Prof. Stefan Chlopicki, PhD*

Medium Hall B

S.03-1**Daniel Wójcik**

Nencki Institute of Experimental Biology
PAS, Warszawa, Poland

*Neuroinformatics, computational
neuroscience, deep learning
– what's in it for me?*

S.04-1**Magdalena Chadzińska**

Jagiellonian University, Kraków, Poland

*From infection to
neurodegeneration – studies
on the zebrafish model*

S.03-2

Chaitanya Chintaluri

Institute of Science and Technology
Austria, Vienna, Austria

Can AI open new doors? Ion channels and how to tame them

S.04-2

Kinga Gawel

Medical University of Lublin, Poland

Panta rhei: the use of zebrafish in epilepsy research

S.03-3

Piotr Majka

Nencki Institute of Experimental Biology
PAS, Warszawa, Poland

AI in digital neuroanatomy

S.04-3

Justyna Zmorzyńska

International Institute of Molecular
Mechanisms and Machines, PAS
Warszawa, Poland

Modeling neuropsychiatric disorders in zebrafish

S.03-4

Włodzisław Duch

Nicolaus Copernicus University, Toruń,
Poland

Perspectives from AI on intelligence

S.04-4

Iga Wasilewska

Mossakowski Medical Research Institute
PAS, Warszawa, Poland

Role of Tmbim5 in the mitochondrial Ca²⁺ transport in zebrafish brain

14:45 – 15:15 Coffee break – Exhibition Room

15:15 – 15:45 **Sponsor presentation**

Elsevier

15:45 – 17:00 **Session 5**

Medium Hall **Presentation of ERC grants**

Chair: Janka Matrai, PhD

S.05-1

Janka Matrai

European Research Council Executive Agency, Brussels, Belgium

S.05-2

Sandra Siegert

Institute of Science and Technology Austria (ISTA), Klosterneuburg, Austria

Microglia-Neuron Interaction

17:00 – 17:15

Welcome ceremony

Medium Hall

**Film about Kraków and the Maj Institute of Pharmacology
Polish Academy of Sciences**

Chairs: Honorary Committee & Organizing Committee

**Film about Kraków and the Maj Institute of Pharmacology,
Polish Academy of Sciences**

17:15 – 18:15

Inaugural lecture

Medium Hall

Prof. Jan Bjaalie, MD, PhD

University of Oslo, Norway, EBRAINS AISBL, Brussels, Belgium

**Harnessing Big Data in Neuroscience: Strategic Insights into Data
Sharing and Machine Learning Applications**

Chairs: Prof. Malgorzata Filip, PhD, Prof. Joanna Pera, PhD

18:15 – 21:00

Welcome party

Wednesday, July 23, 2025

Venue: Auditorium Maximum, 33 Krupnicza Street, Kraków, Poland

9:00 – 17:00

Registration

9:15 – 10:45

Session 6

**New models and tools for stem
cell research**

Chair: Prof. Józef Dulak, PhD

Medium Hall A

Session 7

**Research methods and
modelling in medical
applications**

Chair: Prof. Robert Filipek, PhD

Medium Hall B

S.06-1

Małgorzata Borowiak

Adam Mickiewicz University, Poznań,
Poland

Beta cells and atypical diabetes

S.07-1

Roman Major

Institute of Metallurgy and Materials
Science, PAS, Kraków, Poland

*Simulations of Life: from
Microscale-Organ-on-Chip to
Macroscale-Artificial Patient as
an Effective Tool for Dynamic
Hemocompatibility Assessment*

S.06-2

Agnieszka Rybak-Wolff

Max Delbrück Center – Berlin Institute for Medical Systems Biology (MDC-BIMSB), Berlin, Germany

Brain organoids to model human brain diseases

S.07-2

Patrycja Kwiek

AGH University of Krakow, Poland

Generative Models in Biomedical Imaging: From Data Scarcity to Data Abundance

S.06-3

Jonathan Arias

EMBL, Vilnius University, Vilnius, Lithuania

Characterization of the HLA class I landscape in the Lithuanian population for regenerative medicine applications

S.07-3

Krzysztof Szyszkiewicz-Warzecha

AGH University of Krakow, Poland

Modelling Transport of Ions using Nernst-Planck and Poisson Equations in Medical Applications: from Ion Selective Electrodes to Biological Membranes

S.06-4

Tomasz Kamiński

Warsaw University, Warszawa, Poland

Novel droplet microfluidic methods for single-cell assays

S.07-4

Patrycja Domalik-Pyzik

AGH University of Krakow, Poland

Gradient Scaffolds for Gradient Tissue – Hydrogel Composites for Regeneration of Osteochondral Defects

10:45 – 11:15 Coffee break – Exhibition Room

11:15 – 11:30 **Sponsor presentation**

KAWA.SKA

11:30 – 12:30 **Plenary lecture (PL. 1)**

Medium Hall

Chair: Prof. Joanna Pera, PhD

Prof. Józef Dulak, PhD

Jagiellonian University, Kraków, Poland

Beyond dystrophin: novel targets for treatment of Duchenne muscular dystrophy

12:30 – 14:00 *Poster session I / Lunch break – Exhibition Room*

14:00- 15:30

Session 8

Targeting Serotonin 5-HT₆ Receptor for Neuropsychiatric and Neurological Treatment Strategies

Chair: Prof. Pawel Zajdel, PhD; Severine Chaumont-Dubel, PhD

Medium Hall A

Session 9

Materials for medical applications

Chair: Prof. Aneta Frączek-Szczypta, PhD

Medium Hall B

S.08-1

Philippe Marin

Université de Montpellier, Centre National de la Recherche Scientifique, Institut National de la Santé et de la Recherche Médicale

Targeting the 5-HT₆ receptor-mTOR axis in schizophrenia: from treatment of symptoms to a disease modifying strategy

S.09-1

Isela Padilla Rosales

AGH University of Krakow, Poland; Institute of Applied Sciences and Technology of UNAM, Mexico

The potential of lanthanides upconversion nanoparticles in biomedical applications

S.08-2

Severine Chaumont-Dubel

Université de Montpellier, Centre National de la Recherche Scientifique, Institut National de la Santé et de la Recherche Médicale, Montpellier, France

New Insights in ciliary serotonin 5-HT₆ receptor signaling

S.09-2

Aleksandra Benko

AGH University of Krakow, Poland
Biofunctional solutions for dynamic cell cultures in vitro

S.08-3

Natalia Malikowska-Racia

Maj Institute of Pharmacology, Polish Academy of Sciences, Kraków, Poland

Dual antagonism of 5-HT₃ and 5-HT₆ receptors as a new strategy for targeting schizophrenia

S.09-3

Marta Wojciechowska

Big Data Institute, University of Oxford, United Kingdom

From Slides to Signals: AI for Histological and Multi-Omic Insights

S.08-4

Maciej Sałaga

Faculty of Medicine, Medical University of Lodz, Poland

Potential therapeutic use of serotonin type 6 receptor ligands in irritable bowel syndrome (IBS): preclinical evidence

S.09-4

Ryszard Wielowski

AGH University of Krakow, Poland

Hybrid carbon composites as materials that can stimulate neural tissue: comparison of pyrolytic carbon and functionalized carbon nanotubes in a simulated environment

15:30 – 16:00 Coffee break – Exhibition Room

16:00 – 17:30 **Session 10**

Brain resilience

Chair: Prof. Jan Manuel Rodriguez Parkitna, PhD

Medium Hall A

Session 11

Computational medicine and AI: from neuroinspiration to clinical applications

Chair: Klaudia Proniewska, PhD

Medium Hall B

S.10-1

Sara Xapelli

Faculdade de Medicina, Universidade de Lisboa, Lisbon, Portugal; GIMM – Gulbenkian Institute for Molecular Medicine, Lisbon, Portugal

Neurogenesis and Depression: Exploring the Therapeutic Potential of Cannabinoid CB2 Receptors and Physical Exercise

S.11-1

Jan K. Argasiński

Jagiellonian University, Kraków, Poland, Sano – Centre for Computational Personalised Medicine International Research Foundation, Kraków, Poland

Neuromorphic Computing for Medicine: Opportunities and Challenges

S.10-2

Muriel Koehl

University of Bordeaux, Neurocentre Magendie, Bordeaux, France

Adult neurogenesis and stress resilience

S.11-2

Maciej Ginalski

EDR Medeso, Katowice, Poland

In-Silico Foundations for AI: Engineering Perspectives from Biomedical Device Development

S.10-3

Solveiga Samulėnaitė

Vilnius University, Vilnius, Lithuania;
Pompeu Fabra University, Barcelona,
Spain

Cravings from Within: Gut
Microbiota Drive the Development
of Food Addiction

S.11-3

Jan Kamiński

Nencki Institute of Experimental Biology
PAS, Warszawa, Poland

Predicting Neuropsychiatric
Conditions from EEG Signals
Using Large-Scale Data

S.10-4

Anna Solarz-Andrzejewska

Institute of Physiotherapy and Health
Sciences, Academy of Physical Education,
Katowice, Poland

Shaping Brain Resilience to
Stress: The Roles of Sex and
Blood-Brain Barrier Dynamics

S.11-4

Jakub Kwieciński

Jagiellonian University, Kraków, Poland

Anti-Virulence Therapy for
Bacterial Infections: Can AI
Provide the Solution?

19:00

Congress Dinner

Thursday, July 24, 2025

Venue: Auditorium Maximum, 33 Krupnicza Street, Kraków, Poland

9:00 – 11:00

Registration

9:15 – 10:45

Session 12

**Novel diagnostics methods in
medicine**

Chair: Prof. Artur Rydosz, PhD

Medium Hall A

Session 13

**Neuroimaging Innovations:
Integrating Bioinformatics
for Improved Analysis**

Chair: Bartosz Pomierny, PhD

Medium Hall B



S.12-1**Maciej Wielgosz**

AGH University of Krakow, Poland;
Norwegian Institute of Bioeconomy
Research (NIBIO), Research Scientist, Ås,
Norway

6 years of experience in the
development of AI in Veterinary
medicine. Challenges and
opportunities

S.13-1**Michel Soares Mesquita**

Medscopix, King's College London, UK
Optimizing Neuroimaging
Pipelines for Enhanced
Translational Insights

S.12-2**Sandra Zarychta**

AGH University of Krakow, Poland
Pancreatic Segmentation
Techniques: Bridging Medical
Imaging for Accurate 3D
Visualization in Preoperative
Planning

S.13-2**Maria Elisa Serrano (Melisa)**

King's College London, UK
Current analysis methods in
preclinical PET: an overview

S.12-3**Dominik Grochala**

AGH University of Krakow, Poland
Exhaled breath analysis as a
novel diagnostic tool for daily
clinical practice

S.13-3**Eugene Kim**

King's College London, UK
Imaging transcriptomics of
genetically altered mouse models
of brain disorders

S.13-4**David Barry**

Francis Crick Institute, London, UK
Reproducibility in Biomedical
Research through Image Analysis

10:45 – 11:15 Coffee break – Exhibition Room

11:15 – 11:30 **Sponsor presentation**

I.C.Lab

11:30 – 12:30 **Plenary lecture (PL. 2)**

Chair: Aneta Frączek-Szczypta, PhD

Prof. Steve Williams, PhD

Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK and Centre for Neuroimaging Sciences based at the South London and Maudsley Hospital, London, UK

Bridging the Gap: Transitioning Brain Imaging Techniques from Lab to Clinic

12:30 – 14:00 Poster session II / Coffee break – Exhibition Room

14:00 – 15:30 **Session 14**

**Personalized medicine-
innovative treatments for
civilization diseases**

Chair: Joanna Wierońska, PhD

Medium Hall A

Session 15

Young investigator session

Chair: Katarzyna Stachowicz, PhD

Medium Hall B

S.14-1

Klaudia Kubiak

Medical University of Gdansk, Poland

OGF and Poplar-Derived

Compounds: A Dual Approach

to Reprogram PDAC

S.14-2

Wawrzyniec Lawrence

Dobrucki

University of Illinois at Urbana-

Champaign, IL, USA

The Power of Molecular Targeted

Imaging and its Implications

for Disease Diagnosis and

Personalized Treatment

S.14-3

Joanna Wierońska

Maj Institute of Pharmacology Polish
Academy of Sciences, Krakow, Poland

Personalized pharmacotherapy
of schizophrenia in relation to
observed symptoms

15:30 – 16:00 **Closing & Award Ceremony**

Chairs: Prof. Malgorzata Filip, PhD; Prof. Joanna Pera, PhD

Young Scientific Investigators' Session

S.15-1. Decoding Animal Behavioral Patterns with Transformers

Brejtr V., Šíchová K., Koudelka V., Hrubá A., Lhotská L., Páleníček T.

S.15-2. Evaluation of the functional properties of carbon-carbon composites as potential electrode materials for Deep Brain Stimulation

Czuk A., Wielowski R., Gryń K., Frączek-Szczypta A.

S.15-3. Bioinformatics in hospital: bone marrow transplant in Thalasemia patients in Leiden University Medical Center

Jurkowska K., Kielbasa S., Lugthard G., Kisiel-Dorohinicki M.

S.15-4. Glucocorticoid receptor-regulated genes link stress with brain-related human phenotypes

Zięba M., Piechota M., Borczyk M., Ziemiańska M., Korostyński M.

S.15-5. Interpretable Machine Learning with SHAP for Glioma Grading Using HLA-DR–Stained Histology and Multi-Feature Analysis

Pytlarz M., Wojnicki K., Kaza B., Grajkowska W., Michalowski Ł., Kamińska B., Argasiński J.

S.15-6. Advancing EV Characterization Using U-Net Segmentation: Morphological Insights for Biomarker and Drug Delivery Applications

Awasthi K., Rathod N., Kostkiewicz M., Stępień E.

Poster Sessions

Poster Session I	Wednesday, July 23, 2025	12:30 – 14:00	Exhibition Room
Poster Session II	Thursday, July 24, 2025	12:30 – 14:00	Exhibition Room

Poster Session 1

Clinical research

- P.1.1. Optimised computational predictors for pharmacogene variant function and adverse drug reactions risk**
Hajto J., Borczyk M., Piechota M., Korostyński M.

Preclinical research

- P.1.2. Advancing EV Characterization Using U-Net Segmentation: Morphological Insights for Biomarker and Drug Delivery Applications**
Awasthi K., Rathod N., Kostkiewicz M., Stępień E.
- P.1.3. Improving Stroke Triage with EEG-Based Explainable ML in the Prehospital Setting**
Blanco R., Argasiński J.K., van Stigt M.N., Groenendijk E.A., Coutinho J.M., Lisowska A., Marquering H.A.
- P.1.4. The influence of obesity-inducing diet on rewarding and motivational effects in Wistar rats**
Bryk A., Wydra K., Witek K., Suder A., Filip M.
- P.1.5. Effects of psilocybin in the rat model of chronic unpredictable mild stress**
Bysiek A., Szpręgiel I., Wojtas A., Golembiowska K., Maćkowiak M., Wawrzczak-Bargiela A., Kumorek W.
- P.1.6. The effect of ketamine on mGluR5 receptors in a model of treatment-resistant depression: an autoradiographic study**
Dzierkacz E., Pabian P., Solich J., Gruca P., Litwa E., Łasoń M., Papp M., Faron-Górecka A.
- P.1.7. Heritability of maternal high-fat diet-induced microbiome changes and strategies for its reversal**
Fogt M., Pieniżek R., Gawliński D.
- P.1.8. Context-dependent miRNA regulation in treatment-resistant depression after ketamine treatment**
Gaik N., Solich J., Pabian P., Kolasa M., Gruca P., Biala D., Papp M., Faron-Górecka A.
- P.1.9. Machine Learning-Guided Discovery of Novel AChE and BChE Inhibitors for Alzheimer's Disease Treatment**
Gholami A., Eriksson L.A.
- P.1.10. Mechanisms of anti-glioblastoma effect of 5-spirohydantoin derivative AR5 – in vitro study in human glioblastoma U87MG cell line**
Jantas D., Mąsior A., Wilczkowski M., Handzlik J., Kucwaj-Brysz K.

- P.1.11. **Pharmacokinetics of inhaled Esketamine in rat and dog plasma**
Jaźwiec R., Welzer M., Rudzki P.J., Matłoka M., Wieczorek M.
- P.1.12. **Age- and Sex-Dependent IgG N-Glycosylation Profiles from Blood and Saliva in the Turkish Population**
Aksoy S., Karabudak B., Yilmaz H., Salih B., Kayili H.M.
- P.1.13. **Physiochemical Alterations in Neuronal Cell Membranes Induced by SSRIs: Correlation with Behavioral Studies**
Kostecka A., Szuwarzyński M., Domin H., Stachowicz K.
- P.1.14. **Behavioural and pharmacological evaluation of the psilocybin analogue baeocystin in Wistar rats**
Mazochová K., Šíchová K., Mazoch V., Olejníková Ladislavová L., Páleníček T.
- P.1.15. **Development of a Multiparametric Screening Platform for Functional Evaluation of RdRp Inhibitors as Antiviral Therapeutics Against SARS-CoV-2**
Popiel D., Mitula F., Pieczykolan J., Równicki M., Kolondra A., Kornatowski T., Antoniak D., Gałązka K., Kondej M., Mach M., Stelmach F., Szlenkier M., Wąsińska-Kalwa M., Kamecki K., Pietrusz W., Smuga D., Tuz D., Dubiel K., Abramczyk O., Wieczorek M.
- P.1.16. **Regulation of hepatic cytochrome P450 by hypothalamic NMDA receptors: The role of PVN and ARC nuclei**
Pukło R., Bromek E., Basińska-Ziobroń A., Haduch A., Kuban W., Danek P., Daniel W.A.
- P.1.17. **Neurodevelopmental and Behavioral Consequences of Maternal Western Diet in Rat Offspring**
Saiyara A., Jastrzębska J., Pieniążek R., Frankowska M., Filip M.
- P.1.18. **Proneurogenic and immunomodulatory potential of mesenchymal stem cells in a murine model of temporal lobe epilepsy: phase-integrated therapeutic profiling**
Strzelec M., Detka J., Kot M., Mieszczak P., Majka M.
- P.1.19. **Coadministration of Scopolamine and mGlu2 NAM VU6001966 as a Novel Antidepressant Approach: Rat Frontal Cortex Neurochemistry and Behavior**
Babii Y., Szpregieł J., Palucha-Poniewiera A., Golembiowska K., Bysiek A., Pilc A.
- P.1.20. **Physicochemical Characterization of Ti6Al4V-Hydroxyapatite Composites Produced by Powder Metallurgy for Bone Regeneration**
Kosińska E., Sadlik J., Tomala A., Sobczak-Kupiec A.
- P.1.21. **Maternal Monosaccharide Diets Modulate Hippocampal Neurogenesis in Rat Offspring**
Witek K., Wydra K., Suder A., Filip M.
- P.1.22. **Glucocorticoid receptor-regulated genes link stress with brain-related human phenotypes**
Zięba M., Piechota M., Borczyk M., Ziemiańska M., Korostyrński M.

Other Topic

- P.1.23. **Delving the Potential Transcriptional Role of Glutaminase GLS2 in Glioblastoma Cells Through a Transcriptomic Approach**
Bidon M., Saimaiti S., Biegański M., Kabzińska D., Szeliga M.

- P.1.24. Comparison of machine learning models for predicting pharmacotherapy in obsessive-compulsive disorder**
Czelusta J.
- P.1.25. Evaluation of the effects of ACEA 1021 (NMDA receptor antagonist) on Glial Fibrillary Acidic Protein in dexamethasone-induced neurotoxicity**
Danilczuk Z., Krasuska-Grzegorzczak B., Szymczyk H.
- P.1.26. 3D printing of double-crosslinked chitosan hydrogels modified with phosphate-silicate-borate glass**
Goleba G., Salagierski S., Gura W., Dziadek M., Cholewa-Kowalska K.
- P.1.27. Aldehyde-Functionalized Dextran and Borate Glasses as Dual Cross-Linkers in Chitosan-Based Bio-Inks**
Gura W., Goleba G., Salagierski S., Dziadek M., Cholewa-Kowalska K.
- P.1.28. Disruption of FOXM1 activity impairs cancer stem cells in colorectal cancer**
Kot M., Siemińska I., Kulaga D.
- P.1.29. Light Meets Nature: Exploring Bio-Based Materials for DLP 3D Printing**
Kuczyńska K., Jankowska M., Szymaszek P., Krok-Janiszewska D., Sysło A., Tyszką-Czochara M., Ortyl J.
- P.1.30. The role of serum and sperm microRNAs in the intergenerational transmission of childhood trauma-related phenotypes**
Maloburska A., Nadalinska R., Gomolka M., Tomaszewska W., Gbadamosi I., Hidayat T., Mansuy I., Jawaid A.
- P.1.31. New Photoinitiators for 3D Printing Using One- and Two-Photon Photopolymerization in Medical Applications**
Ortyl J., Petko F., Świeży A., Galek M., Jankowska M., Krok-Janiszewska D., Wolny K., Sula M., Stec A., Niezgoda P., Sysło A., Noworyta M., Patryk S., Oh M.J., Yaemsunthorn K.
- P.1.32. Neurochemical Modulation of Auditory Steady-State Responses: A Systematic Review**
Potapovas M., Vejmola Č., Griškova-Bulanova I.
- P.1.33. Human iPSC-derived cardiomyocytes from Becker muscular dystrophy patients reveal disrupted iron homeostasis**
Przymuszała M., Kwiatkowska J., Meyer-Szary J., Śledzińska K., Wierzbą J., Stępniewski J., Florczyk-Soluch U., Dulak J.
- P.1.34. Between Law and Practice: Poland's Regulatory Deficit in iPSC Therapies and the Pharmacist's Untapped Potential**
Wrześniewska-Wal I.
- P.1.35. Human Induced Pluripotent Stem Cell-Derived Cardiomyocytes and Cardiac Progenitor Cells – Cell-Based Therapy in Murine Model of Myocardial Infarction**
Zieliński T., Tomczyk M., Florczyk-Soluch U., Łoboda A., Dulak J.
- P.1.36. Tailored ALD coatings on NiTi alloy: physicochemical and biological evaluation for cardiovascular implant applications**
Szawiraacz K., Zając Z., Kurtyka P., Basiaga M., Taratuta A., Major Ł., Major R.

P.1.37. Polyelectrolyte-Based Systems for Drug Delivery and Cardiac Cell Differentiation

Wiecek-Chmielarz J., Doko T., Kakinoki S., Kajzer W., Major Ł., Major R.

Poster Session 2

Clinical research

P.2.1. Interpretable Machine Learning with SHAP for Glioma Grading Using HLA-DR-Stained Histology and Multi-Feature Analysis

Pytlarz M., Wojnicki K., Kaza B., Grajkowska W., Michałowski Ł., Kamińska B., Argasiński J.

Preclinical research

P.2.2. Gene-corrected hiPSC model reveals partial dystrophin Dp427 preservation and cardiac Dp116 expression in Duchenne muscular dystrophy

Białobrzaska M., Przymuszala M., Potulska-Chromik A., Kostera-Pruszczyk A., Stępniewski J., Florczyk-Soluch U., Dulak J.

P.2.3. Decoding Animal Behavioral Patterns with Transformers

Brejtr V., Šichová K., Koudelka V., Hrubá A., Lhotská L., Páleníček T.

P.2.4. Loss of Nrf2 transcriptional activity affects phenotype and function of macrophages

Burda G., Sarad K., Bzowska M., Guzik K., Dulak J., Jaźwa-Kusior A.

P.2.5. Diffusion MRI tractography biomarkers to stratify and interpret survival in human glioblastomas

Falcó-Roget J., Basile G.A., Janus A., Lillo S., Politi L.S., Argasiński J.K., Cacciola A.

P.2.6. Not infallible! Experimental results refute computational modelling predictions of coumestrol as a virulence inhibitor in *Staphylococcus aureus*

Filipek M., Kwieciński J.

P.2.7. Subtype-Specific Proteomic Signatures in Motoneurons, DRG, and Ependyma After Spinalization: Insights into Specialization and Recovery

Gajewska-Woźniak O., Głowacka A., Pytyś A., Wójtowicz T., Radwańska K., Skup M.*

P.2.8. Differential Bioenergetic Responses to TDP-43 Depletion Reveal AMPK-Mediated Motor Neuron Hypermetabolism

Gbadamosi I., Motherwell L., Guntan I., Dymkowska D., Jawaid A.

P.2.9. Silver and gold nanoparticles release from chitosan matrix – wet chemistry and hybrid approach of bionanocomposites preparation

Jabłoński P., Święch D., Krawiec H., Kyzioł A., Kyzioł M.

P.2.10. Integrating tumor-connected brain regions into a normative connectome improves prognostic modeling in glioblastoma

Janus A., Falcó-Roget J., Lillo S., Politi L.S., Argasiński J.K., Cacciola A.

- P. 2.11. Astaxanthin attenuates tactile hypersensitivity by modulation of spinal IL-6 expression in a mouse model of neuropathic pain
Klak D. Ciapala K., Pawlik K., Ciechanowska A., Makuch W., Mika J.
- P.2.12. The effect of cytochrome P450 2D6 (CYP2D6) overexpression on the enzyme activity and synthesis of dopamine from tyramine in human neuronal cells
Kuban W. Basińska-Ziobron A., Pukło R., Bromek E., Haduch A., Daniel W.A.
- P.2.13. The activity-based rodent model of anorexia and intestinal mucosal defence
Kurnik-Lucka M. Wilk K., Skowron K., Jurczyk M., Boryczko A., Sobocińska W., Gil K.
- P.2.14. Neuroprotective effects of histamine H3 receptor (H3R) antagonists in cellular models of Parkinson's disease
Maśior A. Szczepańska K., Jantas D.
- P.2.15. Effect of co-treatment with N-acetylcysteine and aripiprazole on the neurodevelopment rat model of schizophrenia
Rogóż Z. Kamińska K., Wąsik A.
- P.2.16. Pharmacokinetics, systemic toxicity, and acute behavioural effects of phenethylamine derivative 25E-NBOH in rats
Šichová K. Hrubá A., Brejtr V., Olejníková-Ladislavová L., Lhotková E, Vágnerová M., Palivec P., Miniariková N., Mazochová K., Vejmola Č., Jurásek B., Kuchař M., Páleníček T.
- P.2.17. Identification of Brain Protein Biomarkers in Rats Abstinent from Extended Cocaine Self-administration
Mielczarek P., **Szafran-Pilch K.**, Drabik A., Saiyara A., Jastrzebska J., Frankowska M., Filip M.
- P.2.18. Novel Dual Antagonists of 5-HT3 and 5-HT6 Receptors with Expected Antipsychotic Activity
Trybala W. Grychowska K., Satała G., Koczurkiewicz-Adamczyk P., Kamiński M., Żelaszczyk D., Canale V., Chaumont-Dubel S., Marin P., Bojarski A.J., Walczak M., Zajdel P.
- P.2.19. Recording Visual Evoked Potentials in Awake Freely Moving Rats
Vejmola Č. Chrtková I., Hubený J., Miniariková N., Toman M., Páleníček T.
- P.2.20. Senescence-associated pathways shape the angiogenic profile of endothelial cells: Implications for atherosclerosis
Walus W. Sarad K., Dulak J., Jaźwa-Kusior A.
- P.2.21. A Wearable Cardiorespiratory Monitoring Solution for Non-Clinical Studies: A novel technology Supporting Reduction and Refinement in In Vivo Research
Woźniak M.
- P.2.22. Application of Artificial Intelligence in Data Analysis of Nanocomposite Dialysis Membranes
Wójtowicz D. Buško B., Kliš K., Stodolak-Zych E.

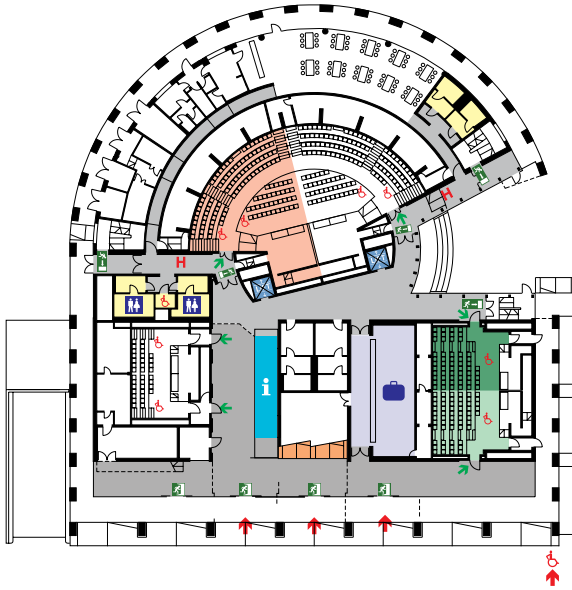
Other Topic

- P.2.23. Evaluation of the functional properties of carbon-carbon composites as potential electrode materials for Deep Brain Stimulation
Czuk A. Wielowski R., Gryń K., Frączek-Szczypta A.

- P.2.24. The cytotoxic effects of novel third-generation antipsychotic drugs on 3D HepaRG spheroids**
***Danek P.J.**, Pukło R., Godzina S., Daniel W.A.*
- P.2.25. Enhancing Photodynamic Applications of Carbon Dots through Nitrogen and Sulfur Doping**
***Ferenc E.**, Yaemsunthorn K., Sysło A., Kowalewska M., Szymaszek P., Ortyl J.*
- P.2.26. Development of a Selective Allosteric Activator Targeting the PERK Pathway**
***Freitas-Marchi B.L.**, Eriksson L.A.*
- P.2.27. High-calcium bioactive borate glasses for tissue engineering applications**
***Gačkowska-Gondek P.**, Kozubal K., Dziadek M., Cholewa-Kowalska K.*
- P.2.28. Towards transparent corneal substitutes: bioprinted models with tuned geometry and light transmission**
***Gąbka M.**, Kurpanik R., Scisłowska-Czarnecka A., Stodolak-Zych E.*
- P.2.29. Polymers in the Service of Neuroscience**
***Golba S.**, Jurek-Suliga J., Szaniawska Z.*
- P.2.30. Bioinformatics in hospital: bone marrow transplant in Thalasemia patients in Leiden University Medical Center**
***Jurkowska K.**, Kielbasa S., Lugthard G., Kisiel-Dorohinicki M.*
- P.2.31. Bioactive borate glasses in a B2O3-CaO system for hard and soft tissue regeneration**
***Kozubal K.**, Gačkowska-Gonek P., Dziadek M., Cholewa-Kowalska K.*
- P.2.32. Synthesis of new phenylcoumarins derivatives for fluorescent sensors**
***Pazdan P.**, Świeży A., Petko F., Sysło A., Yaemsunthorn K., Ortyl J.*
- P.2.33. Development and characterization of carbon-ceramic nanofibrous membranes CNFs-SiC for water purification applications**
***Pazdyk-Slaby W.**, Zientara D., Stodolak-Zych E., Fraczek-Szczypta A.*
- P.2.34. Modelling Glycosylated Neurotransmitter Receptors reveals Glycan-mediated Constraints on Ion Conduction**
***Sehrawat V.**, Sikora M.*
- P.2.35. ITS1 and 16S metabarcoding of soil fungal and bacterial genomic DNA samples – a new tool in forensic investigation**
***Skowronek R.**, Glaz M., Tomsia M., Chelmecka E., Nowińska K., Kokowska-Pawłowska M., Nowak J.*
- P.2.36. The role of 5-HT2A receptors in sleep architecture and memory consolidation in the animal model**
***Aleksić K.**, Olejniková-Ladislavová L., Šichová K., Lhotková E., Čestmír Vejmolá Č., Páleníček T.*
- P.2.37. Corrosion and Wear Behaviour of Plasma-Sprayed Amorphous Coatings for Biomedical Use in Physiological Saline Solutions**
***Amjad A.**, Iqbal A., Yasir M.*

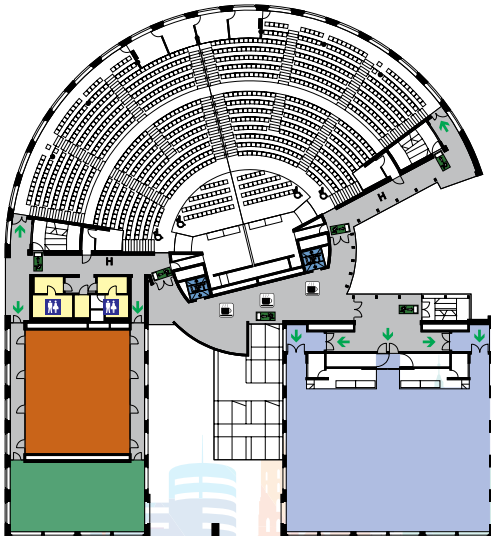
Congress Venue Floor Plan

Floor 0



- Large Hall A
- Medium Hall A
- Medium Hall B
- Cloakroom
- Reception Desk
- Lift
- Entrance / Exit
- Toilets

Floor 2



- Seminar Room
- Conference Room
- Exhibition Room
- Lift
- Entrance / Exit
- Toilets

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Tuesday, July 22, 2025 08:30 – 17:00

Wednesday, July 23, 2025 09:00 – 17:00

Thursday, July 24, 2025 09:00 – 11:00



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C E B C . P L

