# Decisions of the Council of the Doctoral School of Applied Informatics and Applied Mathematics

## Decision No 211

**Resolution No. 211/1:** The Council of the Doctoral School of Applied Informatics and Applied Mathematics, based on the recommendation of the AIAMDI Admissions Committee, proposes the admission of the following students as detailed below.

**For full-time, state-funded training in the following order:**

1. Martin Ferenc Dömény (supervisor: Dr. Dániel Drexler PhD; research topic: In silico optimization of chemotherapy treatments using artificial intelligence methods)
2. Mostafa Gamal Barkat GadElmoly (supervisors: Dr. Péter Galambos PhD, Dr. József Kövecses PhD; research topic: Intelligent Robotic Systems for Dexterous Physical Interactions)
3-7. Máté Érsok (supervisor: Anna Vörösné Dr. Bánáti-Baumann PhD; research topic: Investigation of the applicability of artificial intelligence for designing and developing attack scenarios in cyber exercises)
3-7. Zsombor Kovács (supervisor: Dr. Béla András Frigyik PhD; research topic: Application of stochastic approximation methods in machine learning)
3-7. Kristóf Zsombor Kövesi (supervisor: Anna Vörösné Dr. Bánáti-Baumann PhD; research topic: Application of artificial intelligence-based methods to support and extend the design of cyber exercises in the automotive sector)
3-7. Eszter Lukács (supervisor: Dr. Tamás Haidegger PhD; research topic: Development, Robustness and Transparency Analysis of Large Surgical Models for Surgical Skill Training and Decision Support)
3-7. Panna Zsoldos (supervisor: Dr. Péter Galambos PhD; research topic: New methods for semantic interpretation of digitized 3D spaces using multimodal neural models)
8-9. Regina Hanna Balaton (supervisor: Dr. Zoltán Tóth PhD; research topic: Investigation of point cloud-based data collection procedures)
8-9. Bálint Károly Farkas (supervisors: Dr. Károly Széll PhD, Dr. Péter Galambos PhD; research topic: Investigation of learning-based approaches in robotic manipulation of objects)
10. Attila Biró (supervisors: Dr. Levente Kovács PhD, Dr. László Szilágyi PhD; research topic: Development of modern mathematical optimization models and procedures for assembling optimal teams in competitive sports)
11. Anita Petréné Szappan (supervisor: Dr. Rita Fleiner PhD; research topic: Integrated application of rule-based and machine learning techniques for automating bank complaint handling)
12-13. Miklós Orsós (supervisor: Anna Vörösné Dr. Bánáti-Baumann PhD; research topic: Adaptive attack detection with AI-based anomaly detection and automation of real-time responses in general IT and 5G environments)
12-13. Michael Shi (supervisor: Dr Levente Kovács PhD; research topic: Investigation on Event-Triggered Systems and Machine Learning for Enhanced Cybersecurity in Medical Imaging)
14. Gábor Kovács (supervisors: Dr Sándor Szénási PhD, Dr. Zoltán Vámossy PhD; research topic: Real-time analog image enhancement considering static and textual elements)

15. Roland Szand (supervisors: Dr József Kopják PhD, Dr. Gergely Sebestyén PhD; research topic: Development and evaluation of fuzzy-based adaptive control algorithms for quantized energy impulse profiles in electrosurgical applications)
16. Balázs Gáspár (supervisors: Dr Gábor Kertész PhD, Dr. Ákos Hajnal PhD; research topic: Optimization of task scheduling in heterogeneous computing systems supported by time series data forecasting)
17. Alexander Ládi (supervisor: Dr Péter Galambos PhD; research topic: Semantic segmentation of point clouds and polygon models in complex environments)
18-19. Gergely Döbrössy (supervisors: Dr Judit Tóth PhD, Dr. Rita Hírmondó PhD; research topic: Bioinformatic approach to unveil non-genetic mechanisms of antibiotic resistance)
18-19. Attila Magyari Ferencz (supervisor: Dr Gábor Kertész PhD; research topic: Optimization of control for powder-based chemical-saving systems using artificial intelligence tools)
20. Levente Kolcsár (supervisors: Dr Levente Kovács PhD, Dr. József Domokos PhD; research topic: Interdisciplinary Artificial Intelligence (AI) research methodology, cognitive theories, applications of Integrated Information Theory)
21-22. Árpád Handler (supervisors: Dr József Kopják PhD, Dr. Szilárd Jagasics PhD; research topic: Investigation of torque ripple in electric motor drive control systems, identification of possible causes and developing methods to address them in the automotive context)
21-22- József Sarusi-Kiss (supervisor: Dr Attila Kővári PhD; research topic: System Identification and Pressure Control of a Relay Valve Used in the Electronic Air Control of Commercial Vehicle Brakes)
23. István Kató (supervisor: Dr Gergely Róna PhD; research topic: Mapping the function of TLS polymerases in GO and G1 cell cycle phases by bioinformatic analysis of proteomic and genomic data.)
24. Péter Ákos Girgász (supervisor: Dr Péter Kádár PhD; research topic: Engineering models and computational procedures)
25. Mihály Szabó (supervisors: Dr Attila Kővári PhD, Dr. Gábor Kertész PhD; research topic: Deterministic measurability and environment-specific optimization in neural object and license plate recognition models running on existing camera systems)

***Note:*** The admission of Regina Hanna Balaton, Gergely Döbrössy, Máté Érsok, Bálint Károly Farkas, Balázs Gáspár, Gábor Kovács, Zsombor Kovács, Kristóf Zsombor Kövesi, Eszter Lukács, Roland Szand and Mostafa Gamal Barkat GadElmoly is conditional upon presenting an MSc degree of at least "good" qualification.

**For full-time, fee-paying training in the following order:**

1. Imre Kovács (supervisors: Dr. Ákos Odry PhD, Dr. Péter Sarcevic PhD; research topic: Development of adaptive model-based sensor fusion algorithms for reliable localization of mobile robots)
2. Ardavan Delavar (supervisor: Dr. Amir Mosavi PhD; research topic: Modeling and Optimization of Diesel Engine Performance Using Hybrid Machine Learning with Biodiesel and Additive Blends)
3. Nikita Kalganov (supervisor: Dr. Kornélia Lazányi PhD; research topic: Machine Learning-Driven Real-Time Retrieval-Augmented Generation for Strategic Business Planning)

4. Attila Kantó (supervisors: Dr. Róbert Lovas PhD, Dr. Attila Marosi PhD; research topic: Application of predictive models for optimizing data processing in hybrid clouds)
5. Ákos Jánvári (supervisors: Dr. Károly Széll PhD, Dr. Gyula Simon PhD; research topic: Mobile robot localization)
6. Alimzhan Igenbayev (supervisors: Dr. Amir Mosavi PhD, Dr. Monika Pogátsnik PhD; research topic: Generative Artificial Intelligence for Strategic University Leadership: A Decision Support System for Higher Education)
7. Victor Senaya (supervisors: Dr. Éva Dulf PhD, Dr. György Eigner PhD; research topic: Digital Twin for Cancer Patients based on PKPD Models)
8. Antal Ferenc Skorka (supervisor: Dr. Árpád Baricz PhD; research topic: Investigation of two-parameter Bessel functions and Bessel zeta-functions)
9. Szilárd Zsóka (supervisors: Dr. Attila Bencze PhD, Dr. István Németh PhD; research topic: Quantum networks operating based on the entanglement of spatially separated localized spaces)

10-11. István Halász (supervisor: Dr. Gyula Simon PhD; topic: Robust indoor localization methods and algorithms)

10-11. Berik Sabdenaliyev (supervisor: Dr. Amir Mosavi PhD; research topic: Machine Learning for Higher Education Scientific Strategy Planning and Performance Evaluation)

***Note:*** The admission of Antal Ferenc Skorka is conditional upon presenting an MSc degree of at least "good" qualification.

**For individual preparation in the following order:**

1. Árpád Varga (supervisor: Dr. József Tar PhD; research topic: Tensor product-based modeling and control of biological and physiological processes)
2. Attila Farkas (supervisor: Dr. Gábor Kertész PhD; research topic: Investigation of deep machine learning processes in parallel and distributed environments)

**Resolution No. 211/2:** PhD student Vivien Roxána Patakvölgyi submitted a request to the Doctoral School to change her doctoral topic and supervisors, as the new topic fits her current research activities better, and she has a closer working relationship with the new supervisors.
The new research topic is: *"Processing biological and physiological data with artificial intelligence methods."*
The request is supported by both the former supervisors (Dr. Dániel Drexler PhD and Prof. Dr. László Szilágyi PhD) and the new supervisors (Dr. habil. György Eigner PhD and Dr. Máté Siket PhD). The Council of the Doctoral School of Applied Informatics and Applied Mathematics approves the request.

**Resolution No. 211/3:** PhD student Gibárt Gilányi submitted a request to the Doctoral School to retroactively suspend his student status (to make it "passive") for the 2nd semester of the 2024/2025 academic year. The Council of the Doctoral School of Applied Informatics and Applied Mathematics approves the request.

**Resolution No. 211/4:** In the degree acquisition procedure of PhD student Róbert Pethes, Dr. Szabolcs Számadó PhD is unable to prepare the review for the workplace discussion due to health issues. Therefore, the Council of the Doctoral School of Applied Informatics and Applied Mathematics appoints Dr. Zoltán Kátai PhD, associate professor (Sapientia Hungarian University of Transylvania) as the external reviewer.

Budapest, 3 July 2025

Dr. Gyula Simon
professor
Chair of the Council of the Doctoral School