

**METHODOLOGY REGARDING THE ORGANIZATION OF ADMISSION TO
DOCTORAL UNIVERSITY STUDIES IN POLYTECHNICA UNIVERSITY TIMIȘOARA
SESSION 2026**

APPENDIX 2. FORM FOR THE DOCTORAL OFFER¹
WITH TOPICS RELATED TO PRIORITY AREAS

1. Ph.D supervisor: Assoc. prof. Lucian PRODAN
2. Doctoral field²: Computers and information technology
3. Brief description of the proposed research topic: We seek the development of algorithms capable of integrating video and sensor data under environments exhibiting uncertainty, noise and variability. Modern computing systems are increasingly employed for monitoring, recognition, control and knowledge generation through machine learning. Therefore, bioinspiration could be leveraged by mechanisms similar to biological adaptation: temporal evidence accumulation, selective attention, threshold adaptation, reorganization of useful information. The research will focus on designing models that do not rigidly decide on a single data sample, but integrates information in time and adjusts its behavior based on the level of trust. Research applications could be intelligent video processing systems, sensor monitoring, behavioral pattern recognition and autonomous control in dynamic environments.
4. Available research infrastructure: available space of the ACSA laboratory (www.acsa.upt.ro - B520, B521, B517, B420) with computing and storage facilities, development platforms with microcontrollers and FPGAs, microelectronics specific lab equipment (soldering station with microscope and smoke extractor, signal generator, multimeter, oscilloscope), sensors
5. Facilities for PhD students: research office and full access to all labs, mobility and specialization internships available through institutional means or research grants, joint research collaborations with Cranfield University and University of York
6. Language of the doctoral university study program: Romanian, English
7. Number of positions requested: 1

Date: 21 June 2026

Signature,

¹ The doctoral offer will be a maximum of 1 A4 page

<https://www.mcid.gov.ro/wp-content/uploads/2022/12/strategia-na-ional-de-cercetare-inovare-i-specializare-inteligent-2022-2027.pdf>

² Doctoral fields in IOSUD-UPT: Chemical engineering; Civil engineering and installations; Electrical engineering; Energy engineering; Electronic engineering, telecommunications and information technologies; Computers and information technology; Systems engineering; Mechanical engineering; Industrial engineering; Materials engineering; Engineering and management; Architecture; Geodesical engineering, Environmental engineering; in accordance with ME order no. 5981/2021, ME Order no. 5231/01.08.2023, ME Order no. 5824/29.08.2023 and MEC Order no. 4145/22.05.2025.