

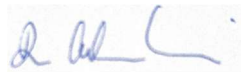
**AUTHOR'S PRESENTATION OF DOCTORAL (PhD)
DISSERTATION**

LUDOVIKA UNIVERSITY OF PUBLIC SERVICE
FACULTY OF MILITARY SCIENCES AND OFFICER TRAINING
DOCTORAL SCHOOL OF MILITARY SCIENCES

Róbert András Muhoray

**THE IMPACT OF ESTABLISHED HABITS ON LEADERSHIP
DECISION-MAKING IN THE HUNGARIAN DEFENCE FORCES, IN
RELATION TO THE PREPAREDNESS AND IN-SERVICE TRAINING
SYSTEMS OF DISASTERMANAGEMENT ORGANISATIONS, AND TO
THE DEFENCE DISASTERMANAGEMENT SYSTEM**

Supervisor



Dr. habil. Ildikó Szelei, Lt. Col. (ret.), Honorary University Professor

Budapest

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FORMULATION OF THE SCIENTIFIC PROBLEM

My research examines how established habits affect leadership decision-making in the Hungarian Defence Forces, within the preparedness and in-service training systems of disaster management organisations, and within the Defence Disaster Management System. Despite the millennia long research tradition on military decision-making and habit formation, it remains unclear in the domestic context whether the basic training of the Hungarian Defence Forces and disaster management explicitly codifies habit-change competencies, and how cognitive programming and routines formed during training are operationalised in their effects on decision-making.

Decision processes associated with command and control are layered and mutually dependent in both peacetime and under special legal regime. The question arises to what extent these sequenced decisions depend on rehearsed protocols/standard operating procedures, and to what extent commanders and subordinates can adaptively deviate from entrenched approaches when operations or combat situations require it.

While the legal framework and international obligations delineate a commander's freedom of action, the changing threat landscape of the past decade – asymmetric, hybrid and cyber warfare, along with new technologies – demands accelerated information flows, increased agility, and the organisational embedding of non-traditional solutions. Although the literature often focuses on individual psychological habit change, it has not sufficiently explored the feedback effects of habits on preparedness and command decision-making mechanisms, particularly during the current development phase of the Hungarian Defence Forces and following the reorganisation of the disaster management authority domain. Hence the question whether, to achieve comprehensive population protection, the field requires civil protection, fire service, industrial safety and defence-security training strands. A further issue is that the alignment of the training and preparedness system with the task structure of the Defence and Security System, effective from 1 November 2022, is not yet complete. It must therefore be determined to what depth disaster management commanders should be versed in military capabilities and, conversely, how far military commanders should know the composition and capabilities of disaster management response forces.

Overall, the scientific problem is to model and empirically examine the effects of training-shaped habits and habit-change competencies on the decision-making of military and

disaster management commanders, and to identify the ensuing curricular and interoperability requirements.

RESEARCH HYPOTHESES

H1 - I hypothesize that the training systems of the Hungarian Defence Forces and of disaster management organisations precisely define and codify competencies related to habit change.

H2 - I hypothesize that the Hungarian Defence Forces institutionalized cognitive programming and the resulting routines exert a measurable influence on leadership decision-making.

H3 - I hypothesize that achieving comprehensive population protection within the disaster management domain requires the integrated outcomes of civil protection, fire service, industrial safety, and defence-security training strands.

H4 - I posit that the successful implementation of coordinated disaster-management measures and interventions requires members of the Defence Disaster Management System to possess general disaster-management knowledge and requires disaster management organisations to possess sufficient knowledge of the Hungarian Defence Forces structure and disaster-management capabilities.

RESEARCH OBJECTIVES

I articulate my research objectives across four sub-domains, as delineated in the statement of scientific problems. At the level of the dissertation, my core aims include examining the relevant international and domestic strategic documents and legal frameworks, reviewing pertinent publications by Hungarian and foreign scholars, and by referencing internationally evidenced good practices creating pathways for their transfer into the national system.

1. I aim to map the methodology of habit formation and its interaction with training modalities, with due regard to human adaptability. I will examine the structure, components, and competency-development efforts of the training systems applied in the Hungarian Defence Forces and in disaster management, and I will propose options for evaluating training effectiveness.

2. I intend to survey the prescriptions and regulations associated with training requirements. I will assess whether training explicitly addresses the possibilities of cognitive programming and habit formation, or whether it remains confined to cognitive knowledge transfer. In doing so, I will analyse how knowledge acquisition (lexical knowledge) and logical reasoning connect to the emergence of habits, and I will propose habit-formation-based competency definitions in the programmes examined.
3. I will analyse the principal effects of non-formal and informal training – whether they primarily influence knowledge acquisition, the development of logical reasoning, or the formation of habits. I will examine whether habits formed under different operational and life contexts produce patterns that deviate from baseline dispositions, and based on the findings, I propose methods for overriding established decision-making habits.
4. I will assess, within the professional disaster-management services, how the existence and quality of training affect first responders and compulsory and volunteer civil protection organisations. I will evaluate the relative importance of structural and non-structural elements in the Hungarian Defence Forces disaster-management system and propose options for their development

RESEARCH METHODS

In preparing the dissertation I applied, in general, analysis, synthesis, induction and deduction within a systems-oriented scientific approach. For the development of individual chapters and subchapters, in line with the research objectives, I employed the following specific methods:

1. General methods: analysis, synthesis, deduction, systems-oriented scientific approach, methods of comparison and generalisation and the chronological method of inquiry.
2. Analytical-logical methods: evaluation of the current regulatory environment and formulation of proposals based on the conclusions thus derived.
3. Empirical methods: primarily grounded in professional experience gained within the domain under examination.
4. Literature and legal research: study and processing of relevant international and domestic scholarly sources and legal documents.

5. Normative drafting: formulation of improvement proposals at the level of normative text for training and education.
6. Comparative modelling: study of foreign modelling methods and calculations, with comparative analysis against domestic solutions.
7. Dissemination of interim results: processing, publication, and presentation of partial research findings at conferences and within educational settings.
8. Expert elicitation: consultations, interviews, and surveys with recognised subject-matter experts.
9. Adoption of best practices.

CONCISE OVERVIEW OF THE CONDUCTED RESEARCH, BY CHAPTER

Chapter I (substantive) examines habit formation and decision-making. Following the presentation of single-loop and double-loop learning and organisational learning, I analyse which learning processes shape decisions. I set out rational, heuristic, group and collective decision-making approaches, then compare the conditions for optimal choice with satisficing. I conclude that decision-makers seek optimality where feasible, yet frequently accept satisficing solutions. Learned behavioural patterns, organisational and social context, and cognitive constraints jointly determine outcomes. I then assess the impact of habits on decisions: habit-based choices offer speed in familiar situations, but its disadvantage is the automaticity and insensitivity to environmental change. Organisational routines structure operations, providing stability and efficiency, while excessive rigidity hampers adaptive response.

Chapter II (substantive) explores the theoretical background of habit formation within the Hungarian Defence Forces (HDF). After outlining the HDF's constitutional mandate and the structure of training, I analyse five NCO and warrant officer courses of the NCO Academy's *Steel Cube* system, substantially revised after 2022 to shift from theory toward practice so that NCOs can perform under non-peacetime conditions. I note the long intervals between successive training levels as a limitation. Building on the logic of initial and refresher training, I examine the mission-command philosophy (decentralised decision-making, clear commander's intent, subordinate initiative) aligned with NATO doctrine. I then discuss the rise of artificial intelligence (AI): while AI promises faster data processing and decision support and

new human-machine teaming modalities, integration poses challenges to trust and mutual understanding. Leaders must prepare for AI-enabled command and control by understanding data-driven decision-making, defining optimal human-machine task allocation, recognising AI limits, and ensuring that human judgement remains central.

Chapter III (substantive) addresses disaster-management preparedness and continuing education. I introduce operational staffs and modes of incident command to foreground teamwork and leadership as core training outcomes. I review disaster typologies and emphasise the role of preparedness in elevating leadership decision-making. I outline the legal framework of professional service and entry requirements for firefighters, examine secondary and tertiary training pathways and initial officer appointment, and highlight the role of volunteers and compulsory civil-protection organisations. I analyse defence and security administration, the structure and tasking of territorial and local defence councils, and whole-of-government crisis management, including the training of personnel involved in defence and security tasks. I find that effective performance in defence/security administration and disaster response requires training, preparedness and exercising. I therefore review in detail the Ludovika University of Public Service's Joint Public Service Exercises and propose integrated, practice-oriented training solutions, alongside a brief on the relevant BA programme in The Institute of Disaster Management at the Faculty of Law Enforcement. Chapter conclusions present actionable recommendations for disaster-management training.

Chapter IV (substantive) examines the Defence Disaster Management System (DDMS) within Hungary's unified disaster-management architecture. I survey the legal corpus (Constitution, defence and disaster management acts and executive decrees, Ministry of Defence (MoD) regulations and instructions) and review defence and site-protection plans, proposing amendments considering the entry into force of the new Defence and Security System. I analyse the conditions and authorities for deploying military forces, the request procedures for DDMS assets, and clarify HDF roles in disaster response, as well as the place of defence and security administration in prevention and consequence management. Established by MoD Decree 25/2000 (22 November), the DDMS constitutes a military sub-system with standing structure, personnel and equipment, and defined activation/readiness elements. I detail DDMS tasks across preparedness, prevention, response and recovery, assess unit-level training and exercises, and illustrate HDF participation in flood defence through the Tisza Multinational Battalion. The chapter concludes with a synthesis of findings and targeted proposals.

SUMMARIZED CONCLUSIONS

To address today's societal, political, economic, and environmental challenges, the development of the HDF is indispensable – technically, technologically, and in human resources – just as ensuring the prevention-centric posture and effective response capabilities of Hungary's disaster-management system is essential. Meeting these challenges requires approaches and decision-making that differ from past practice: in both the HDF and law-enforcement/disaster-management organisations, leaders are expected to take the best possible decisions and to see those decisions executed in the most optimal manner within the command process.

The HDF and professional disaster-management organisations cultivate the knowledge base and professional progression of their personnel through initial training, NCO education, university programmes (BA/MA), doctoral studies, and courses placing particular emphasis on the beneficial role of habits in acquiring sound decision-making functions.

Chapter I (substantive) shows that learning and decision-making are tightly interwoven: decision patterns arise from learning experiences, while each decision creates new opportunities for learning. Habits enable energy-efficient functioning but can constrain flexible, adaptive choice especially in rapidly changing environments where double-loop learning is required. There is no single correct decision model; both optimal and satisficing strategies can be effective under different conditions. High-quality organisational decisions depend on a reflective culture that not only corrects errors but also revisits underlying rules and norms. Group and social processes (conformity, dominance, status effects) can distort preferences. Managing group dynamics consciously is therefore vital. Overall, decisions are not purely isolated logical processes; learned behaviours, organisational and social context, and cognitive limits jointly shape outcomes. Conscious learning, reflective thinking, and flexible habit management are the keys to effective individual and organisational performance.

Chapter II (substantive) examines the *Steel Cube* NCO/warrant officer training system. Built as a sequenced pathway from initial training to joint-level senior NCO education, it reflects the increasing need for competencies to employ high-tech systems. The modernized *Steel Cube* framework supports a force of well-trained, confident, physically fit, multilingual, and properly equipped young professionals. Accordingly, it is necessary to develop the armed forces, as well as to establish the training and education systems. In my opinion, this is ensured by the modernized *Steel Cube* training. The impact of mission command (decentralised decision-

making, clear commander's intent, subordinate initiative) and the applicability of artificial intelligence (AI) are highlighted: mission-command principles remain valid in AI-enabled operating environments but require new skills. The HDF must proactively manage AI integration, aligning technological change with the enduring principles and values of military leadership.

Training effectiveness measurement in the HDF and disaster management is currently limited. Wider adoption of models such as Kirkpatrick and Phillips (ROI) is recommended to provide feedback on learning transfer and behavioural/organisational impact. With the introduction of the measurement of training effectiveness, trainers and those who are responsible for the training can receive feedback on how well the knowledge acquired in a particular training has been mastered, as well as how lasting a change the material has induced. However, due to the specific nature of the effectiveness measurement levels, it is also worth examining which trainings are measurable to which extent.

Chapter III (substantive) concludes that preparedness requirements must strengthen national resilience through both general and specialised education. The present higher-education architecture in disaster management has evolved with the creation of integrated disaster management (from 1 January 2021). With the entry into force of the defence and security law and the further development of defence management as a reform process, the defence and security management has been established. For those performing tasks in defence and security management, a new type of training is necessary, which must include disaster management knowledge based on a whole-of-government approach.

To ensure the success of disaster prevention, it is essential to train well-qualified officers, with the training location being the Institute of Disaster Management at the Faculty of Law Enforcement of the Ludovika University of Public Service. Among the competencies that disaster management students must acquire, the most important ones are that students get to know the organizational and managerial system of disaster management, its practical solutions, the interconnections of prevention, response, and recovery tasks, the responsibilities for the public's disaster preparedness, as well as gaining knowledge about authority work. The Common Public Service Practice is an important venue and tool for training disaster management leaders. Professional knowledge is necessary for the complex protection of the population, which requires integrated results from the training of the fields of firefighting, civil protection, and industrial safety.

Chapter IV (substantive) addresses the participation of the HDF in disaster response, in which the HDF plays a supporting role. In performing this supporting task, military organisations take part under the military chain of command, directed by their own commanders. The DDMS is closely linked to the national disaster-management system, its elements are found within the MoD and among the organisations subordinate to the Chief of Defence. In its present form, the DDM reached readiness in 2001. The underlying concept envisaged participation in nuclear-incident response, flood defence, and the mitigation of damage caused by severe winter weather. With regard to its employment, by organising capability-based tasks the DDMS can contribute to the response to all types of disasters.

The DDMS is also prepared to undertake international disaster-relief tasks. A prominent example of international cooperation is participation in the Multinational Battalion established for Tisza River flood defence.

As a general, summarised conclusion, it may be stated that it is important to implant through training and exercises cognitive patterns in subordinate personnel that contain the best solutions required for situations, and to practise these until they become habits. This accelerates the decision-making process and improves operational tempo.

The examination of the effects of habits on decision-making should be applied without exception in the HDF's officer and NCO training systems, as well as in the professional training programmes of disaster management which – owing to its complex structure – encompass multiple specialisations. The aim is to ensure performance that meets present and future expectations among the personnel of the organisations examined, especially among commanders who bear responsibility for decisions.

In both the HDF and disaster management, the application of the mission-command approach should be regarded as obligatory, since decentralised decision-making yields faster execution that is more precisely adapted to the situation. Together, these factors provide higher readiness for the execution of combat tasks and greater effectiveness in the prevention and elimination of disasters.

NEW SCIENTIFIC RESULTS

1. Using a comparative method to **examine** the methods, theory, and practice of learning, **I have demonstrated** that the functioning of the Hungarian Defence Forces (HDF) and

disaster-management organisations is closely intertwined with their members' learning capacities and decision-making mechanisms. **I have shown** that these institutions' training programmes define competencies that foster the formation of habits which, in turn, enable energy-efficient, rapid decision-making and reduce cognitive load.

2. Through a scientific comparison of the HDF NCO Academy's *Steel Cube* training requirements, **I have demonstrated** the need to develop cognitive programming during training so that NCOs and warrant officers can meet out-of-peacetime operational expectations. **I have proposed** further strengthening the predominance of practical over theoretical instruction, thereby supporting innovation, technological development, digitalisation, and the implementation of the mission-command leadership philosophy.
3. By **analysing** the current legal background and the training/preparedness system of domestic disaster-management administration, **I have demonstrated** that core professional knowledge within the personnel is indispensable for the reliable, comprehensive protection of the population, life, and health. This requires the integrated outcomes of the fire service, civil protection, and industrial safety training strands, a whole-of-government approach provided by defence and security administration, and close inter-professional cooperation within the Ludovika University of Public Service's Joint Public Service Exercises.
4. Within the framework of disaster response, **I examined** the feasibility and necessity of capabilities established in the Defence Disaster Management System (DDMS) and demonstrated that the HDF provides these capabilities as temporary organisational elements, task-oriented working groups. On this basis, **I have shown** that both DDMS members and disaster-management organisations must possess thorough professional knowledge of each other's capabilities to enable effective cooperation and to increase resilience to disasters.

RECOMMENDATIONS OF THE DISSERTATION

The various parts of this dissertation can be used effectively by individuals and organisations engaged in training and education. I particularly recommend it to professionals responsible for training and examination within the Hungarian Defence Forces (HDF) and the national disaster-management system who are committed to modern pedagogy. In today's dynamically

changing environment – grounded in information and knowledge – continuous learning is indispensable. Merely maintaining existing expertise is insufficient and risks obsolescence. Ongoing technological innovation and the surrounding ecosystem generate a steadily rising demand for knowledge. Success will accrue to those for whom lifelong learning becomes integral to their professional identity. These imperatives are clearly present within the HDF and the disaster-management services. Accordingly, I commend the dissertation to senior leaders and specialists in these organisations.

Exploring the purpose and utility of learning shows that it produces relatively durable cognitive and behavioural change, whose duration varies by individual and depends on the extent to which newly acquired skills and knowledge become habits and problem-solving routines, and on the persistence of practice and task execution. On this basis, I recommend the work to higher-education and initial vocational institutions serving the uniformed services, especially to the Ludovika University of Public Service Faculty of Military Science and Officer Training, the Faculty of Law Enforcement's Institute of Disaster Management and to the leadership and instructors of the Disaster Management Training Centre.

Among the training types examined are defence and security training, the special legal regime, phased crisis management, and defence and security administration. For a deeper understanding of these domains, the systematically developed bodies of knowledge in the relevant chapters are recommended to leaders and staff at all levels who, by virtue of law, bear responsibilities and tasks within defence and security administration.

Alongside the preparation of professional personnel, the disaster-management training of citizens fulfilling compulsory civil-protection service within established civil-protection organisations is of comparable importance. For this reason, I also recommend the dissertation to those responsible for the training of compulsory civil-protection organisations.

PRACTICAL APPLICABILITY OF THE RESEARCH FINDINGS

The various parts of my dissertation can be used effectively in the higher-education and initial vocational, professional training institutions of the HDF and Hungary's disaster-management system, when compiling university lecture notes, teaching aids, and profession-specific annexes, as well as in higher-education institutions more broadly, especially within the faculties and institutes of the Ludovika University of Public Service. The work may serve as required or

recommended reading in defence and security education, and within the training systems of organs and organisations tasked with guaranteeing security in defence and security institutions.

During my research, the proposals advanced for the HDF, disaster-management and defence & security administration, the special legal regime, phased crisis management, and the development of the DDMS can provide reference points when further developing the legal regulation of the relevant domains.

The structuring used in the dissertation highlights the diversity of competencies that both subordinates and leaders must keep constantly in view. These competencies are supplemented where specifically military competence is concerned. Namely, behaviour oriented toward the professional management of force and, on that basis, the lawful use of weapons. Accordingly, the dissertation's findings may also be applied in the training and preparation of reservists.

Several chapters of the dissertation offer support to members of knowledge management. The theory of optimal decision-making rests on rationality and the maximisation of outcomes. It presupposes that the decision-maker possesses all relevant information and can conduct a comprehensive analysis of alternatives – i.e., perform preference analysis – to arrive at the best possible choice.

The concept of organisational learning extends individual learning to collective performance. Two fundamental forms are distinguished: single-loop and double-loop learning. These principles can be utilised by educational institutions and equally by the HDF and disaster-management organisations.

Within organisational functioning, the key to learning is the cultivation of a reflective culture that encourages not only error correction but also the reconsideration of foundational rules and norms. On this basis, and using the dissertation as a framework, designated HR personnel can also examine the effects of habits on organisational behaviour and decision-making.

PUBLICATION LIST OF THE DOCTORAL CANDIDATE (RELATED TO THE DISSERTATION TOPIC)

Edited book chapter

1. Muhoray, Róbert (2019): Media, Consumer Society. In: Farkas, János; Muhoray, Róbert; Szántai, Zsolt; Szabó, Péter (2019). The Power of the Mind. Guruló Egyetem Ltd. 237 p. pp.13-32. 19 p. ISBN 978-615-5420-88-7.

2. Muhoray, Róbert (2019): Ideologies and armed conflicts, Morality and religion. In: Farkas, János; Muhoray, Róbert; Szántai, Zsolt; Szabó, Péter (2019). *The Power of the Mind*. Guruló Egyetem Ltd. 237 p. pp.33-55. 23 p. ISBN 978-615-5420-88-7.
3. Muhoray, Róbert András (2021): *The role of training in competence and habit formation in the Hungarian Defence Forces*. In Z. Krajnc (ed.): *A hadtudomány aktuális kérdései 2021* [Current Issues in Military Science 2021]. Budapest: Ludovika University Press, 339–350. ISBN 978-963-531-950-3

Peer-reviewed journal articles

4. Muhoray, Róbert András (2019). *A comparison of leadership training in civilian life and in the Hungarian Defence Forces*. *Hadtudományi Szemle*, 2019/3, 101–112. ISSN 2060-0437.
5. Muhoray, Róbert András (2020). *Military and national-security challenges posed by terrorism today*. *Szakmai Szemle*, 18(4), 53–65. ISSN 1785-1181.
6. Muhoray, Róbert András (2021/2022). *Habits to be acquired during training and their impact in disaster management*. *Polgári Védelmi Szemle*, 14, DAREnet Project Special Issue, 216–227. ISSN 1788-2168.
7. Muhoray, Róbert András (2024). *Habits to be learned during the training and their impact on disaster prevention*. *American Journal of Research, Education and Development*, 2024/3, 49–59. ISSN 2471-9986.
8. Muhoray, Róbert András (2025). *Applying decision-making methods in basic and higher-level training*. *Polgári Védelmi Szemle*, XVII (2025 Special Issue), 322–331. ISSN 1788-2168.

Publications in conference volumes / proceedings

7. Muhoray, Róbert András; Muhoray, Árpád (2022). *Victim mentality and fears in disaster situations*. In T. Hábermayer; I. Varga; Zs. Ackermann (eds.): *Katasztrófák és következmények, segítők és áldozatok* [Disasters and Consequences, Helpers and Victims]. Szekszárd: Tolna County Disaster Management Directorate, 93–102. (IV. Tolna County Civil Protection Workshop.) ISSN 2471-9986.
8. Muhoray, Róbert (2020). *Changes in the competencies of the Hungarian Defence Forces in a VUCA*. In *Change, Redirection and Development Academic Conference: Book of Abstracts*. Pécs: University of Pécs, Faculty of Business and Economics, p. 107. ISBN 978-963-429-601-0.

9. Muhoray, Róbert (2020). *The impact of habits on decision-making in the light of information*. In N. E. Baráth; J. Mezei (eds.): *Rendészet–Tudomány–Aktualitások: A rendészettudomány a fiatal kutatók szemével 2020* [Law Enforcement–Science–Topicalities: Through the Eyes of Young Researchers 2020]. Budapest: DOSZ, 148–155. ISBN 978-615-5586-76-7.
10. Muhoray, Róbert András (2021). *Habits to be acquired during training and their impact in disaster management*. In L. Bodnár; Gy. Heizler (eds.): *Természeti Katasztrófák Csökkentésének Világnapja – Nemzetközi Tudományos Konferencia* [International Scientific Conference – International Day for Disaster Risk Reduction]. Budapest: RSOE, 349–358. ISBN 978-615-01-3641-7.
11. Muhoray, Róbert András (2022). *Habits to be acquired during training and their impact in disaster management*. Conference presentation (PowerPoint), available via vedelem.hu.

PROFESSIONAL–SCIENTIFIC CURRICULUM VITAE

Name: Róbert András Muhoray

Place and time of birth: Zalaegerszeg, December 7., 1977.

Education

- 2000 – University of Veszprém, Faculty of Engineering college degree (BA).
- 2014 – University of Pécs, MA in Human Resource Counselling

Professional career

- 2001–2007 – Provident Financial Ltd.: Sales Area Manager, later Senior Trainer.
- 2007–2012 – MetLife Insurance Co.: Head of Training – leadership development, organisational process optimisation; Managing Director responsible for the alternative sales network.
- 2012 – National Waste Management Agency (OHÜ): Project Manager of the EU-funded HUNOR National Waste-Management Navigation System IT investment
- 2016–2018 – NHKV National Waste Management and Asset Management Plc.: Director of Investments, later Deputy Director for Billing.

- 2019–present – MRAY Solutions Ltd.: Managing Director; organisational development consulting and training.
- 2021–present – Warsaw Management University: University Lecturer (leadership and management).

Languages

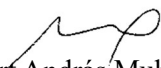
- English – intermediate certificate
- German – advanced certificate

Additional academic and professional activities

Within the framework of the Doctoral School of Military Sciences, the candidate has delivered lectures and workshops for the students of the HDF Ludovika Battalion and at the Disaster Management Honours College of the Faculty of Law Enforcement and has also participated – as an observer and consultant – in the examinations of the Advanced NCO Course at the HDF NCO Academy.

The candidate is a regular speaker at the international scientific conferences organised at the Ludovika University of Public Service by the Hungarian Civil Protection Association, by the Hungarian Military Science Society, by the Defence Information Centre Foundation, and by the Institute of Disaster Management (Faculty of Law Enforcement), on the occasions of the International Day for Disaster Risk Reduction and the Celebration of Hungarian Science.

Budapest, August 27, 2025.


Róbert András Muhoray