ASSESSMENT REPORT

Assessor: Professor Katya Georgieva Stoycheva, PhD

Department of Psychology

Institute for Population and Human Studies, Bulgarian Academy of Sciences

Professional area: 3.2. Psychology

Evaluation of the scientific production submitted for consideration in the competition for promotion to the level of Full Professor in the domain 5. Technical sciences, professional area 5.2. Electrical engineering, electronics, and automation (Robotic systems with human-machine interface), announced in the State's Journal, Issue 26 from 21 March 2023

Candidate: Associate Professor Maya Ivanova Dimitrova, PhD

Only one candidate has applied for promotion to the level of Full Professor under the abovementioned competition. This is Dr. Maya Ivanova Dimitrova, Associate Professor at the Institute of Robotics of the Bulgarian Academy of Sciences, at the Unit of Interactive Robotics and Control Systems.

For consideration in the current competition, Assoc. Prof. Dr. Maya Dimitrova has submitted:

* a collection of 11 papers in indexed and referenced scientific publications; in 7 of them she is the first author and in 1 – the only author;

*1 authored paper in an indexed and referenced scientific journal;

* 15 papers in English and Bulgarian in peer-reviewed scientific journals and edited volumes not indexed in world renown scientific databases; in 10 of them she is the first author and in 5 – the only author;

* 5 chapters of collective monographs; in 2 of them she is the first author and in 3 – the only one.

All these scientific works are within the thematic scope of the competition and are accepted for evaluation. In total, 111 citations and 3 published reviews of the applicant's research works are reported.

I fully accept the author's statement of Dr. Maya Dimitrova, which considers her original scientific contributions within the designated 32 scientific publications. These **scientific contributions** are related to a) the conceptualization and modeling of cognitive and neuro-cognitive processes in information processing within technology-assisted learning and human-robot interaction; b) argumentation of promising approaches in the development of cyber-physical pedagogical systems; c) development of new methods for the study of social factors in the process of learning in human-machine interaction; d) substantiation of a new method for extracting and classifying the text in Web pages.

Her applied scientific contributions are related to the synthesis of experimental results and empirical data on the human-machine interface aimed at a) identification of the optimal parameters for robotic systems and their application in inclusive education and pedagogical rehabilitation; b) development of games for cyber-physical pedagogical systems, and c) application of modular neural networks in adaptive interface systems, as well as to the analysis of parents' and teachers' attitudes towards robotics and IT education at school.

The provided list of **citations** is a testimony to the importance of the applicant's publications and the high appreciation of her results. It discloses 111 citations and 3 published reviews of the applicant's scientific work; of them 70 citations and 3 reviews in indexed and referenced scientific publications, 12 citations in peer-reviewed monographs and edited volumes, and 29 citations in peer-reviewed journals. Most attention (and greatest recognition) received the work of Dr. Dimitrova on human-robot systems and their application in learning, in special education and with children in a hospital environment (a total of 62 citations, of which 35 in refereed and indexed publications) and the development of a user interface which optimizes the information search and user interaction with the Web (a total of 23 citations, of which 14 in refereed and indexed publications). The application of various learning models and data processing techniques in medicine continues to attract interest (9 citations in total). These citations cover the entire period from 2007 to 2023, which testifies to the constant interest in and valuing of her work.

Collaborative publications in English-language sources that are indexed and referenced in world renown databases are indicative not only of the high-level research work of Dr. Maya Dimitrova, but also of the effectiveness of her team participation. Since her promotion to the position of Associate Professor in 2007, she has worked on 6 **projects**, of which 3 with European funding, and in 2 of them she was the project leader. The above conclusion is also supported by her experience in **the academic advisership of two doctoral students** who have successfully defended their dissertations. Prof. Dimitrova is not only an active participant in the national and international

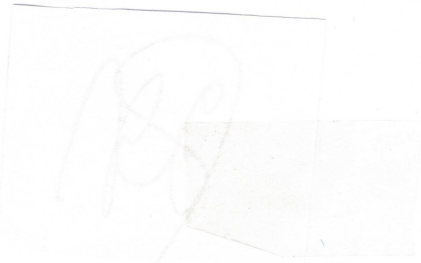
scientific life, but a sought-after **expert** as well, as a reviewer for international journals, project evaluator and consultant for EC programs.

I accept the statement submitted by Assoc. Prof. Maya Dimitrova about **the compliance with the requirements for being promoted to the academic position of Full Professor,** which attests to the fulfillment of the minimum national requirements for the scientific production of the candidate aiming at the academic position of Full Professor in domain 5. Technical sciences, professional area 5.2. Electrical engineering, electronics, and automation, according to Art. 2b, para. 2 and 3 of ADASRB.

CONCLUSION

Associate Professor Dr. Maya Dimitrova is an established scientist with a solid scientific output, international presence and recognition. Her publications reflect in-depth research activities leading to significant scientific and applied scientific results that contribute to the further application of the principles and methods of cybernetics in various fields of science.

Based on my high appreciation of the academic performance of Associate Professor Maya Ivanova Dimitrova, PhD, I propose that she be elected to the academic position of Full Professor by the Scientific Council of the Institute of Robotics at the Bulgarian Academy of Sciences.



Sofia, 13 July 2023

Signature: *Professor Katya Stoycheva, PhD*