

## OPINION

on a procedure for promotion to the academic position "Associate Professor"  
in the scientific field 5."Technical Sciences",  
Professional direction 5.2 "Electrical engineering, electronics and automation",  
Scientific specialty "Application of the principles and methods of cybernetics in different  
scientific fields", published in State Newspaper num. 57/09.07.2021  
with applicant: Denis Safidinov Chikurtev, PhD, Chief Assistant Professor with the Institute of  
Information and Communication Technologies, BAS  
Member of the Scientific Jury: Prof. Andon Venelinov Topalov, Ph.D., Department "Control  
Systems", Technical University of Sofia, branch in Plovdiv.

### 1. General characteristics of the applicant's research and scientific and applied activities.

The candidate has diplomas for completed bachelor's and master's degrees at the Technical University of Sofia, in the specialty "Automation, Information and Control Equipment", respectively in 2012 and 2014. In 2017 he was awarded the scientific degree "Doctor of Philosophy (PhD)" after a successfully defended dissertation on "Investigation and control of service robots for human assistance" at the Institute of Information and Communication Technologies (IICT) at BAS. From 2017 to 2019 he held the academic position "Assistant Professor" at IICT, and then engineering and technical positions at the Institute of Systems Engineering and Robotics (ISIR) and at IICT, BAS.

Currently, Dr. Chikurtev is Chief Assistant Professor at IICT at BAS.

In the submitted materials for participation in the announced competition for "Associate Professor" the candidate has presented 37 scientific publications. The applicant meets the minimal scientific requirements of the Regulations for implementation of the Law for the Development of Academic Staff in the Republic of Bulgaria for the academic position "Associate Professor" in the scientific field 5."Technical Sciences", professional direction 5.2 "Electrical engineering, electronics and automation", scientific specialty "Application of the principles and methods of cybernetics in different scientific fields" that can be seen from the table:

Group	Content - indicators	For the academic position "Assoc. Prof."	For D. Chikurtev
A	Dissertation work for awarding PhD degree	50	50
C	Group C indicators	100	131,5
D	Group D indicators	220	236,9
E	Group E indicators	60	81
F	Group F indicators	20	62
	In total	Minimum 450 p.	561,4 p.

Group C presents 10 scientific works published in publications referenced and indexed in world-famous databases. Group D presents 27 scientific publications respectively. In two of them, the candidate is the sole author.

In the materials under the procedure, the candidate has provided information on seven citations in scientific publications, referenced and indexed in world-famous databases, one citation in a monograph with scientific review and four citations in unreferenced journals with scientific review. The candidate has participated in the scientific teams of two national scientific projects and one international scientific project. He was the scientific leader of a national scientific project. The results presented are indicative of the research skills achieved by Dr. Denis Chikurtev and his personal contribution is undeniable.

## **2. Main scientific and applied-scientific contributions.**

The main contributions of the Chief Assistant Prof. Dr. Denis Chikurtev in the presented scientific papers have a scientific, applied-scientific or applied character. The attached contribution report includes 17 scientific and applied-scientific contributions and 8 applied contributions, which I accept. They are related to the development of tele-controlled service robots and intelligent service robots to assist the elderly and disabled; human-machine interfaces for them, including those using voice commands, algorithms and approaches for navigating service robots in indoor spaces, training robots, flying robots and robotized systems, positional manipulator control, based on stereo computer vision and iterative learning control, as well as control of formations of mobile robots. Separately, several developments are dedicated to intelligent building heating systems. In general, contributions consist in proposing new approaches and methods, as well as verifying them through their implementation to solve specific tasks.

## **3. Importance of contributions to science and practice.**

I believe that the research production presented by the applicant by volume and quality fully meets the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), its Implementing Regulations and the Regulations on the specific conditions for acquiring scientific degrees and for holding academic positions at the IICT for the academic position "Associate Professor". Chief Assistant Prof. Dr. Eng. Denis Chikurtev is an established scientist, is well known in the scientific circles at home and abroad and has received scientific and applied-scientific results consistent with the modern achievements, that have contributing nature.

## **4. Critical notes and recommendations.**

I would recommend that in his future activity the applicant should also pay attention to the pedagogical work by engaging in some teaching activity in front of students and PhD students. This note is of only a recommended nature and does not reduce the very good results achieved by Dr. Chikurtev.

## **CONCLUSION**

After my knowledge of the documents for the research activities of the candidate and analysis of the scientific papers presented in the procedure, their importance and the scientific and applied-scientific contributions contained therein, I find it reasonable to propose to the Esteemed Scientific

Jury and the Scientific Council of IICT at BAS to support the promotion of Chief Assistant Prof. Dr. Eng. Denis Safidinov Chikurtev in the academic position "Associate Professor" in professional direction 5.2 "Electrical engineering, electronics and automation", scientific specialty "Application of the principles and methods of cybernetics in different scientific fields"

Date: 12.11.2021

Jury member:

**NOT FOR  
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(Prof. Eng. Andon Topalov, Ph.D.)