

# OPINION

## on the competition for the academic position of „Professor“

in the field of higher education:	4. Natural sciences, mathematics and informatics
professional field:	4.6. Informatics and computer sciences
scientific specialty:	„Informatics“
announced in:	State Gazette No. 87 of 15.10.2024 and on the website of IICT-BAS
for the needs of:	Institute of Information and Communication Technologies (IICT) Section "Information Processes and Decision Support Systems"

The opinion was prepared by:

Dr. Vassil Georgiev Guliashki, professor at IICT-BAS - section "Information Processes and Decision Support Systems, in the capacity of a member of the scientific jury for the competition, in accordance with Order No. 311/13.12.2024 of the Director of IICT-BAS.

**Only one candidate** has submitted documents for participation in the announced competition:

**Assoc. Prof. Dr. Leoneed Mihaylov Kirilov, IICT-BAS**

### I. General description of the materials presented

#### 1. Application details

To participate in the competition, the candidate Assoc. Prof. Dr. Leoneed Mihaylov Kirilov has applied a total of 19 publications, of which 15 articles in scientific journals, 2 publications in proceedings of international conferences, one collective monograph and one chapter of a book.

The following scientific works are accepted for consideration, which have not been used for acquiring the educational and scientific degree "doctor" and for occupying the academic position "associate professor" and are within the subject of the competition: – One collective monograph and one chapter of a book, indexed in Scopus, 17 publications in Bulgarian and foreign scientific journals and scientific forums, of which 3 with an impact factor, 10 with an impact rank, 2 indexed in ACM, and 2 in IEEE Xplore;

Also submitted are an application for admission to participate in the competition, a professional CV according to the European template, a diploma for the acquired educational and scientific degree "doctor", a certificate of scientific title, a general list of publications and copies of the works, a reference for the original scientific contributions in the works for participation in the competition in Bulgarian, summaries of the publications for participation in the competition in Bulgarian and English, a list of citations for participation in the competition, a certificate of internship in the specialty, a reference according to the template for covering the minimum national requirements under Art. 2b, para. 2 and 3, and the requirements under Art. 2b, para. 5 of the Law for development of the academic staff in the Republic of Bulgaria, as well as the minimum requirements of the Institute of Information and Communication Technologies - BAS, and a declaration of the absence of plagiarism in the candidate's scientific works.



The documents provided meet all requirements and provide maximum information about the candidate's contributions and publications.

## **2. Candidate details**

The candidate has 40 years of professional experience from his work at IICT-BAS, where he obtained the scientific degree of Doctor and the scientific title of Associate Professor.

## **3. General features of the candidate's scientific works and achievements**

The candidate works and has presented publications in the following areas of the competition topic:

(1) Modeling, development of optimization algorithms and decision making for real processes and systems: Publications №№: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12;

(2) Modeling, development of optimization algorithms and decision making for some classes of abstract problems: Publications №№: 5, 8, 9, 13, 14, 15, 16, 17, 18, 19;

From the point of view of the specificity of the tasks being solved, the following research directions presented in the publications can be formulated:

1. Publications on computer modeling and decision-making for hydrological processes and river basin management

(Publication No. 1 - habilitation thesis - monograph).

2. Publications on modeling and development of algorithms for optimization of mono- and bi-metallic nanostructures

(Publications Nos. 4, 7, 9, 10, 11, 12)

3. Publications on modeling and development of approaches and algorithms for decision-making for solving some applied problems and tasks.

(Publications Nos. 2, 3, 5, 6, 8, 13, 14, 15, 18)

4. Publications on modeling and development of algorithms for decision-making under many criteria.

(Publications No. 16, 17, 19)

The quantitative indicators of the criteria for holding the academic position of professor have been met - in general under the Law on the Promotion of Academic Research and Development of Bulgarian Academy of Sciences and in particular under the Regulations on the Specific Conditions for the Acquisition of Scientific Degrees and for Holding Academic Positions at the Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences. The candidate has a total of 13 publications submitted for participation in the competition, which are in publications with IF or SJR.

No plagiarism has been found in the scientific papers submitted for the competition.

## **4. Characteristics and evaluation of teaching activities, project work and other activities**

The candidate has presented over 50 reports at international forums abroad and in Bulgaria.

Activities related to the training of doctoral students prevail in the educational and pedagogical activity. The candidate is a scientific supervisor of two doctoral students who have been set free with the right to defend their dissertations, one of whom has successfully defended his thesis.

The candidate has participated in a total of 9 international scientific projects and 15 national projects funded by the National Science Fund or by the Bulgarian Academy of Sciences. He has participated in the development of a Web-based decision support system WebOptim for solving multi-criteria optimization problems with continuous and/or integer variables. He has also participated in the creation of a computer program Tsuyoyama for optimizing mono- and bimetallic nanostructures.

He actively participates in the scientific life and organizational activities of IICT-BAS.



## 5. A substantive analysis of the candidate's scientific and applied scientific achievements contained in the materials for participation in the competition

The candidate's scientific works are on the topic of the competition, in renowned scientific conferences or scientific journals. The main nature of the scientific works is related to the enrichment of existing knowledge and the application of scientific achievements in practice.

Scientific contributions are the personal work of the candidate and can be attributed to the formulation of mathematical models, the creation of new methods, technologies and obtaining results of scientific research and applied results important for practice.

The candidate's participation in so many scientific events and especially in international scientific projects makes him a sufficiently recognizable scientist, which is also confirmed by the number of citations of his publications. In total, the candidate has over 300 citations. For the competition, the candidate presents a list of 41 citations, of which 28 are in Web of Science/Scopus, 6 are in Zentralblatt, 1 in Matscinet, and 6 are in ACM. All this convincingly proves that the candidate is an internationally known and recognized scientist, whose scientific achievements are known, significant and cited.

## 6. Critical remarks and recommendations

I have no critical remarks regarding the reviewed works and the candidate's activities, as well as regarding the future use of the candidate's scientific and applied scientific contributions.

## 7. Personal impressions about the candidate

I have known the candidate for more than 35 years and have excellent impressions of his scientific competence and collegiality. He possesses all the necessary personal and professional qualities to hold the position of professor and is a colleague who is a worthy scientist at IICT-BAS.

## 8. Conclusion on the application

After having familiarized myself with the materials and scientific papers presented in the competition and based on the analysis of their significance and the scientific and applied scientific contributions contained therein, **I confirm** that the scientific achievements meet the requirements of the Law for development of the academic staff in the Republic of Bulgaria, the Regulations for the implementation of the Law for development of the academic staff in the Republic of Bulgaria, the Regulations on the Conditions and Procedure for Acquiring Scientific Degrees and for Holding Academic Positions at the Bulgarian Academy of Sciences, and the Regulations on the Specific Conditions for Acquiring Scientific Degrees and for Holding Academic Positions at the Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences.

In particular, the candidate meets the minimum national requirements in the professional field and no plagiarism has been established in the scientific papers presented in the competition.

I give my positive assessment of the candidacy.

## II. General conclusion

After reviewing the materials and scientific papers presented in the competition, analyzing their significance and the scientific, scientific-applied and applied contributions contained therein, I find it reasonable to give my positive assessment and recommend that the Scientific Jury propose to the Scientific Council of IICT-BAS to elect **Assoc. Prof. Dr. Leoneed Mihaylov Kirilov** to occupy the academic position of "professor" in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.6. Informatics and Computer Science, scientific specialty Informatics.

Date: 05. 01. 2025.

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