

OPINION

on the competition for the academic position of "professor"
in the professional field 4.6 "Informatics and Computer Sciences", specialty
"Informatics" announced by the Institute of Information and Communication
Technologies – Bulgarian Academy of Sciences in the State Gazette No. 87/15.10.2024
for the needs of the "Modeling and Optimization" department

Reviewer: Prof. Dr. Radoslav Dakov Yoshinov

Candidate: Assoc. Prof. Dr. Nina Hristova Dobrinkova

According to the order of Order № 310/13.12.2024 of the Director of IICT-BAS, I have been appointed to be a member of the scientific jury under the announced procedure, and according to the minutes of the first meeting, I have been appointed to prepare a statement.

As a member of the Scientific Jury, I have received the following documents submitted by the candidate under the procedure.

1. Curriculum vitae according to the European standard;
2. Copy of the diploma for the educational and scientific degree "doctor";
3. Certificate of internship in the specialty;
4. List of scientific publications for participation in the competition, which do not repeat those submitted for the acquisition of the educational, scientific degree "doctor" and the academic position "associate professor";
5. Certificate of utility model, as a scientific and applied result;
6. List of citations for participation in the competition, which do not repeat those submitted for the acquisition of the educational, scientific degree "doctor" and the academic position "associate professor";
7. Summaries of scientific publications for participation in the competition - in Bulgarian and English;
8. Copies of scientific publications for participation in the competition;
9. References for fulfillment of the minimum requirements under Art. 2b, para. 2 and 3 of the ZRAS in the Republic of Bulgaria and the requirements of the IICT under Art. 2b, para. 5;
10. Reference to the original scientific and applied scientific contributions;
11. Declaration that there is no plagiarism proven in accordance with the statutory procedure in the scientific works;
12. Documents certifying management or participation in the implementation of projects;

Note: All documents for the competition were submitted on an electronic medium.

According to the Act on the Development of the Academic Staff in the Republic of Bulgaria (ADSRB) of Art. 29(1)2, Regulations for the Implementation of the ADSRB and the Regulations on the Specific Conditions for the Acquisition of Scientific Degrees and for Holding Academic Positions at IICT-BAS, candidates for the academic position of "professor" must meet the following requirements:

1. To fulfill the relevant minimum national requirements and the additional specific requirements of IICT-BAS
2. To have acquired the educational and scientific degree "doctor"
3. To have held the academic position "associate professor" in the same or another higher education institution or scientific organization for no less than two academic years or
4. To have held the academic position "associate professor" in the same or another higher education institution or scientific organization for no less than five years:
 - a) have been teachers, including part-time teachers, or members of a research team at the same or another higher education institution or scientific organization, or
 - b) have practiced artistic creativity, or
 - c) have been specialists in practice and have proven achievements in their field
5. Have presented a published monographic work and/or equivalent publications in specialized scientific publications (including their citations) or evidence of corresponding artistic achievements in the field of arts
6. Have presented other original scientific research works, publications, inventions and other scientific and applied scientific developments or artistic achievements, which are evaluated in their entirety
7. Have no proven plagiarism in scientific works according to the established procedure

The candidate Nina Hristova Dobrinkova holds the ONS "Doctor" from 09.04.2012 According to the service note for work experience issued by IICT, the candidate Nina Hristova Dobrinkova has 8 years and 3 months of work experience as an "Associate Professor". Candidate Nina Hristova Dobrinkova has submitted a declaration that there has been no proven plagiarism in scientific papers in accordance with the statutory procedure.

The following table shows the performance by groups of indicators of the minimum requirements and the performance by the candidate Nina Hristova Dobrinkova.

Area 4. Natural Sciences, Mathematics and Informatics, Prof. field 4.6. Informatics and Computer Science

Group of indicators	Content	Professor (min. points)	Presented by the candidate in the competition
A	Indicator 1	50	50
B	Indicator 2	---	---
C	IndicatorS 3 or 4	100	100
D	Sum of the indicators from 5 to 10	260	317
E	Indicator 11	140	168
F	Sum of the indicators from 12 to the end	150	410

For group B – the candidate has submitted information about 1 monograph, by Yosifova, M., Dobrinkova, N. "BOUND LIABILITY AND RISK ASSESSMENT - AN EFFECTIVE MEASURE AGAINST CLIMATE CHANGE, DISASTERS AND FLOODS", Amikum Publishing House, Bulgaria, 2018, ISBN:978-619-90976-0-1, 216 pages/.

For group D, 17 scientific articles indexed in WoS and Scopus, as well as 1 utility model, are presented. For group E, a reference for 29 citations is presented. It can be seen that the data presented for groups D and E exceed the required minimum. For group F, information is presented for: 1 doctoral candidate; 4 participations in national scientific projects; leadership of 1 national scientific project; 6 leaderships of Bulgarian teams in an international scientific or educational project. Here too, the data presented for group F significantly exceed the required minimum.

From the analysis carried out in this way, it is easily established that the candidate fully satisfies both the minimum national requirements and the specific requirements of IICT-BAS.

The Scopus and Web of Science databases show the following scientometric indicators for the candidate:

	Scopus	Web of Science	Google Scholar
h-index	5	3	8
Author documents	34	23	66
Citations	54	28	190

The main contributions in the publications submitted for participation by Assoc. Prof. Dr. Nina Hristova Dobrinkova are formulated as follows:

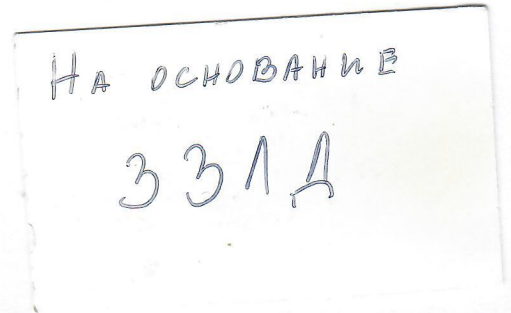
1. A methodology for processing riverbed data, based on geodetic surveys and Shezi's formulas for river runoff, has been developed and applied, so as to obtain maximally realistic flood zones, which would be a priority in the event of a flood for the territory of Svilengrad municipality and test areas in Armenia. [B1, D12, D15, D16, D17]
2. Web-based modules or systems have been developed and tested to support decision-making of services responding on the ground in the event of a disaster. All practices for STEM and ICT training have been taken into account. [D1, D2, D4, D7, D8, D9, D10, D13]
3. Approaches and optimizations have been developed and tested for simulating forest and field fires in Bulgaria, with an emphasis on the need to develop a comprehensive map of possible combustion models for non-urbanized territories. In the case of a forest fire, information for real-time simulation does not exist due to the lack of hourly meteorological data in the affected areas. There is also a lack of data on the types of plants that make up the local flora. The simulation models divide grasses, shrubs and trees into 53 classes, which in Bulgaria the forestry enterprises do not know and do not use. This is a big problem, because without properly described plants in the forest management plans, real-time simulations for Bulgaria cannot be carried out due to a lack of data. The proposed articles provide an opportunity to make a first rough sorting into the 53 possible classes on a general principle, and subsequently, with available field data, to proceed to optimizations and calibration of the obtained general models to more specific ones. [G3, G6, G11, G14]
4. The Dirichlet method was developed and tested to predict the spread of a biological agent that has the potential to infect tissues very quickly. During the COVID pandemic, a similar methodology was applied to predict the spread of the virus causing COVID. [G5]
5. A system for analyzing and controlling the mechanical properties of biological tissues is a scientific and applied result that allows doctors to operate better in cases of bloodless surgery. [G18]

I have no critical remarks towards the candidate Assoc. Prof. Dr. Nina Hristova Dobrinkova. The documents presented show that the candidate has proven his/her ability to work in a team (participant in international and national projects and collectives).

CONCLUSION

The requirements, conditions and criteria of the Act on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for its implementation and the Regulations on the conditions and procedure for acquiring scientific degrees and occupying academic positions at IICT-BAS have been fulfilled and I give a categorically positive conclusion for the election of Assoc. Prof. Dr. Nina Hristova Dobrinkova in the competition for "professor" in professional field 4.6 "Informatics and Computer Sciences".

Expressing my positive opinion on the presented materials, I propose that the esteemed Scientific Jury unanimously vote on a proposal to the Scientific Council of the Institute of Information and Communication Technologies at BAS to elect Assoc. Prof. Dr. Nina Hristova Dobrinkova to the academic position "professor" in professional field 4.6 "Informatics and Computer Sciences", specialty "Informatics".



29.01.2025

Member of Scientific Jury:.....

Prof. Dr. Radoslav Yoshinov