

REVIEW

from Prof. Daniela Ivanova Borissova, DSc at the Institute of Information and Communication Technologies at Bulgarian Academy of Sciences,
member of the scientific jury according to Order Z-RK-155/29.04.2021
of the Rector of NBU,
for the competition about 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”,
announced in State Gazette No 23 / 19.03.2021

Candidate for the competition: Assoc. Prof. Dr. Georgi Teoharov Tuparov

I. BRIEF BIOGRAPHY OF THE CANDIDATE

Assoc. Prof. Dr. Georgi Teoharov Tuparov was born on December 28, 1963. He obtained a master’s degree in “Automation of discrete production” at the Technical University of Sofia in 1989. In 2004 he received the educational and scientific degree “Doctor” in TU-Sofia. Since 2016 he has held the academic position of “Associate Professor” at the New Bulgarian University, Sofia.

II. CHARACTERISTICS OF THE SCIENTIFIC AND SCIENTIFIC-APPLIED AND TEACHING ACTIVITY OF THE CANDIDATE

According to Art. 61 of the regulations for application of law for development of the academic staff in the Republic of Bulgaria (respectively art. 29 of the law for the development of the academic staff in the Republic of Bulgaria and art. 64 of the ordinance for the development of the academic staff of NBU), the candidates for the academic position “professor” are evaluated with respect to the fulfillment of the conditions under Art. 60, para. 1 and 2 and in accordance with the information from the inquiries under art. 60, para. 3. The fulfillment of these conditions is shown in the following table:

Applicants for the academic position of “professor” must meet the following conditions:	Documents submitted
Art. 60, para. 1 (1) have acquired the educational and scientific degree "Doctor"	Diploma for Doctor No 29294/23.08.2004 issued by the Higher Attestation Commission
Art. 60, para. 1 (2) to have held the academic position of "associate professor" in the same or in another higher school or scientific organization not less than two academic years or not less than five years:	Presented autobiography, Certificate for the scientific title "Associate Professor" No 24071

(a) have been lecturers, including part-time teachers, or members of a research team at the same or another higher education institution or research organization, or (b) have pursued an artistic activity, or (c) have been specialists in practice and have proven achievements in their field	from 05.02.2007 issued by the Higher Attestation Commission, list of courses taught at NBU
Art. 60, para. 3 The candidates shall submit a reference for fulfillment of the minimum national requirements, of the requirements under art. 1a, para. 2, as well as a reference for the original scientific contributions, to which the respective evidences are attached	Information on fulfillment of the minimum national requirements; Author's reference for publications and contributions

The implementation of the minimum points by groups of indicators for the academic position "professor", according to the specific requirements of NBU, is as follows:

*Area 4. Natural sciences, mathematics and informatics,
Professional direction 4.6. Informatics and computer science*

Group of indicators	Contents	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 indicators from 5 to 10	200	489
E	Sum of points from indicator 11	100	856
F	Sum of indicators from 12 to 20	150	498.5
G	Sum of indicators from 21 to the end (mandatory for NBU)	70	145
H		70	80
I		70	70

The candidate **Assoc. Prof. Dr. Georgi Tuparov** has submitted 23 publications for participation in the competition, of which 1 monograph, 1 chapter from a book, 21 publications indexed in Scopus, Clarivate Analytics Web of Science, ACM Digital Library and IEEE eXplore Digital Library.

For group "C" the candidate has submitted a monograph with a total of 146 pages, has two reviewers and has an ISBN.

For group "D" the sum of indicators from 5 to 10 forms a total number of points amounting to 489. This shows the publication activity of the candidate in visible publications,

indexed in the world databases for scientific information.

For group “E” the sum of the points is equal to 856, which significantly exceeds the required minimum of 100 points. This indicator proves the importance of the publications, expressed through the relevant citations.

For group “F” the sum of the indicators from 12 to 20 forms a total of 498.5 points. Included here are the applicant's activities related to a successfully defended doctoral student; participation in national and international projects; incl. management of a Bulgarian team in an international research project; published university textbooks and published university teaching aids used in the school network.

For group “G” the candidate has presented evidence forming 145 points, namely: membership in national and international organizations in the professional field; participation in research projects; participation in the improvement of course development programs; proven professional applied skills in the professional field.

For group “H” the candidate has presented evidence, forming a total of 80 points, referring to the satisfaction of the students of the course and the teacher over 4.00; author's study materials at Moodle NBU; collaboration with students: guidance and reviews of successfully defended graduates; teaching foreign language courses.

For group “I” the candidate has presented evidence forming 70 points. The candidate has declared: trainings of the NBU Library for work with world-famous scientific databases and for preparation of bibliographic references; accurate performance of academic duties; Participation and management of a project that has attracted external funds and students of NBU; Participation in committees at the faculties; no penalties under the Labor Code.

The report from Scopus, Web of Science and Google Scholar shows the following scientometric indicators for the candidate:

	Scopus
h-index	5
Documents by author	20
Citations, without self-citations	42
	Web of Science
h-index	4
Documents by author	18
Citations, without self-citations	35
	Google Scholar
h-index	10
Citations	269

From the presented reports it can be seen that the teaching activity of Assoc. Prof. Dr. Georgi Tuparov includes the following courses: Databases; Design of business information systems; PL/SQL programming; Oracle databases - basics of administration; Distributed databases; Distributed database applications, database programming; UML modeling; Practice in programming and realization of databases; Databases and SQL; Web application development with Oracle technologies; Web applications with Oracle technologies; Object-oriented programming with UML; Client - server information systems.

It can be seen that the educational activity of Assoc. Prof. Dr. Georgi Tuparov directly corresponds to the topic of the announced competition for the academic position "Professor" in Prof. field 4.6. "Informatics and computer science".

From the analysis made in this way it was established that the evidence presented by the candidate significantly exceeds the set minimum national requirements and the requirements of the New Bulgarian University.

III. MAIN CONTRIBUTIONS IN THE SCIENTIFIC, SCIENTIFIC-APPLIED AND TEACHING ACTIVITY OF THE CANDIDATE

The contributions presented by the candidate for the competition Assoc. Prof. Dr. Georgi Teoharov Tuparov are systematized in the following main areas:

1. Modeling and development of sustainable extensions of the functionalities of open source e-learning systems. The contributions in the publications related to this area focus on the analysis of the possibilities for sustainable development of the functionalities of open source systems and development of approaches and models for creating sustainable micro-extensions of these systems that solve various specific needs of the educational process in electronic environment. A critical analysis of various approaches, including e-learning standards and specifications, has been made and the possibilities for their use to expand the functionality of open source e-learning systems have been identified [4, 6, 10, 11, 23]. Theoretically, models and approaches have been created for: 1) a model for the implementation of the "file" method [1, 2] and modules for assessment of competencies in blog and wiki [6] as sustainable micro-extensions of the functionality of the e-learning system with Moodle open source using built-in extension mechanisms; 2) approach to the use of e-learning standards and specifications for the development of sustainable micro-extensions of the functionality of open source e-learning systems - development of simulations and educational games [5, 10, 11, 16, 23]; 3) approaches and models for micro-extensions by adapting an existing technological tool or resource of the e-learning system by changing the semantics and/or usage [23]. The proposed models and approaches have been implemented, which has proven their viability and effectiveness [1, 2, 3, 4, 5, 6, 16, 23].

2. Framework for description and evaluation of functionalities of e-learning environments.

Comparative analyzes. Frameworks have been developed to study various aspects of the functionality of open source e-learning systems and comparative analyzes of some of the most common e-learning systems have been made, concerning: 1) competence assessment [6]; 2) opportunities for integration of game elements and educational games in open source e-learning systems [10, 11]; 3) characteristics of e-learning tools [23].

3. Educational computer games and gamification. One of the current trends in the development of e-learning is aimed at the use and integration of educational computer games and game elements. In this direction, prototypes of educational games have been developed, reflected in [11, 16, 21, 23]; a model for generating test tasks using game elements has been implemented [17, 18]; and a technology for self-preparation and self-assessment of students using gamification has been developed [20, 23].

4. Mobile learning – analysis, modeling and implementation in countries in conditions of military conflict. Based on a study conducted among stakeholders in the e-learning ecosystem at some of the universities in the Republic of Yemen: 1) the technological challenges facing mobile learning in relation to the unstable communication environment in the context of military conflict have been identified [8]; 2) the risks of using different learning materials provided electronically in relation to the end devices used are assessed and the cultural features of the learning environment are assessed [9]; 3) The FRAME model for mobile learning has been expanded and adapted and a technological model for the implementation of mobile learning with a pilot study in the Republic of Yemen has been developed [13].

5. Survey of stakeholders in the e-learning ecosystem. Questionnaires have been created, tested and validated to study various aspects of the interaction of stakeholders in the e-learning ecosystem both with the technological means in it and with other stakeholders, identifying: 1) the necessary new functionalities of the technological means of the e-learning ecosystem and in particular of the e-learning systems, which are at least for now the core of this ecosystem [3, 7]; 2) the end devices used by the learners and determining the specifics of the learning materials used through them [8, 9]; 3) game elements and mechanics preferred by learners and trainers [12, 14, 16, 19].

6. Development of e-learning. An analysis and systematization of the state, problems, trends and opportunities for the development of e-learning in general and in particular - in Bulgaria and in the Republic of Yemen, both in terms of technology and policy for process management in e-learning and distance learning. [13, 22, 23]. The evolution of Web technologies and their impact on e-learning has been traced [23].

Based on the presented documents, it can be summarized that the formulated contributions are the personal work of the candidate in the competition Assoc. Prof. Dr. Georgi Tuparov.

IV. CRITICAL REMARKS AND RECOMMENDATIONS

I have no critical remarks to the candidate Assoc. Prof. Dr. Georgi Tuparov. My recommendations are related to expanding the topics of the publications, according to the current thematic areas in the field of computer science.

V. CONCLUSION

Taking into account the fulfillment of all normative requirements, according to law for development of the academic staff in the Republic of Bulgaria, the regulations for its application, as well as the ordinance for the development of the academic staff of NBU, including the reports on the fulfillment of the minimum national requirements, the scientometric indicators from Scopus and Web of Science, and the additional indicators related to the teaching activity, it can be established that the candidate fully satisfies the requirements for holding the academic position in the announced competition. **All this gives me enough reason to give a categorically positive assessment and I propose to the scientific jury to vote a proposal to the Academic Council of New Bulgarian University – Sofia to elect Assoc. Prof. Dr. Georgi Teoharov Tuparov for the academic position of “professor” in a professional field 4.6 “Informatics and Computer Science”.**

9 of July 2021

Reviewer:

Professor Daniela Borissova, DSc