

OPINION

**on a competition for the occupation of an academic position “Professor”,
in the professional field 4.6. Informatics and computer sciences
(Information technology),
for the needs of the Sofia University St. Kliment Ohridski,
Faculty of Mathematics and Informatics (FMI),
declared in the State Gazette No. 48 of 26.05.2020 and on the websites of FMI and SU**

The opinion was prepared by Full Professor Daniela Ananieva Orozova, PhD from Burgas free university, professional field 4.6. Informatics and Computer Sciences (Information technology), scientific field 4. Natural sciences, mathematics and informatics, as a member of the scientific jury for the competition according to Order No. ПД 38-344 from 23.07.2020 of the Rector of Sofia University.

Only one candidate has submitted documents for participation in the announced competition: Assoc. Prof. Pavel Hristov Boytchev, PhD from the Faculty of Mathematics and Informatics at the Sofia University St. Kliment Ohridski.

I. General description of the materials presented

1. Details of the application

The submitted documents from the applicant comply with the requirements of the Development of Academic Staff Act in the Republic of Bulgaria and the Regulations on the conditions and procedures for acquiring scientific degrees and occupying academic positions at the Sofia University St. Kliment Ohridski.

To participate in the competition the candidate Assoc. Prof. Pavel Hristov Boytchev has presented a list of **11 titles**, publications in Bulgarian and foreign scientific publications and scientific forums. Of these, 8 publications in international scientific forums and publications, referenced in the scientific databases Scopus or Web of Science (with IF or SJR), 1 monograph, 2 chapters from books. The following candidate materials were presented to me: Autobiography, Diploma of higher education, Diploma of educational and scientific degree "Doctor", Document of scientific title, Certificate of seniority in the specialty, Documents proving the fulfillment of the requirements of art. 115, para. 1, item 1, List of publications, Reference by the Author system, Reference for meeting the minimum national requirements for the respective scientific field and the additional requirements of SU St. Kliment Ohridski, Reference for citations, Reference for original scientific contributions, Reference for indicators under Art. 122, para. 2, Scientific papers submitted for participation in the

competition, Abstracts of the peer-reviewed publications, Copy of the announcement in the State Gazette. The documents are carefully systematized and described and significantly facilitate the assessment to meet the necessary requirements.

2. Details of the applicant

Assoc. Prof. Pavel Hristov Boytchev obtained his PhD degree in Informatics from the Faculty of Mathematics and Informatics at the Sofia University St. Kliment Ohridski in 2001. He then worked as a visiting researcher at the Stevens Institute of Technology, Center for Innovation in Engineering and Science Education and School of Engineering, Hoboken, New Jersey, USA. In the period 2003-2005 he was invited as a researcher and postdoctoral fellow at the University of Telecommunications, Chofu, Tokyo, Japan. Since 2007 he has been an associate professor at Sofia University St. Kliment Ohridski, Faculty of Mathematics and Informatics. Since 2016 he has been the head of the Information Technology Department.

3. General characteristics of the applicant's scientific work and achievements

The submitted candidate's scientific papers for participation in the competition are divided into three thematic groups:

- Educational software and training content [№1, 2, 3, 6, 7, 8, 9, 10, 11];
- Ontologies, taxonomies and (meta-) metadata [№1, 4, 5];
- Programming languages and translators for them [№1].

Two of the scientific papers submitted for participation in the competition are single-authored and the remaining 9 are co-authored. A list of all 106 publications of Assoc. Prof. Pavel Hristov Boytchev is given. The candidate has also provided a citation list, which contains a total of 13 citations in scientific journals, referenced and indexed in world-famous databases of scientific information (Web of Science and Scopus), with which the candidate participates in the competition for "professor". A general list of 189 citations is also attached.

According to the submitted documents the applicant covers: 50 points in the group of indicators "A", 100 points in the group of indicators "B", 276 points in the group of indicators "Г", 104 points in the group of indicators "Д", 100 points in the group of indicators "E". Therefore, the minimum national requirements and the additional requirements under Art. 1a, para. 2 and para. 3 of the RIADAPRB for occupation of the academic position of "Professor" in the professional field 4.6 Informatics and Computer Science have been completely covered.

After a detailed review of the submitted scientific publications I confirm that:

a) The scientific works meet the minimum national requirements (according to Art. 2b, para 2 and para 3 of the *Development of Academic Staff Act in the Republic of Bulgaria*) and respectively

the additional requirements of the Sofia University St. Kliment Ohridski for the academic position of “Professor” in the scientific field and professional direction of the competition.

b) The scientific papers presented by the applicant do not repeat those of the previous procedures for acquiring a scientific title and academic position.

c) There is no proven plagiarism in the scientific works presented at the competition.

4. Characterization and evaluation of the applicant's teaching activity

Information about the indicators under art. 122, para. 2 Assoc. Prof. Pavel Hristov Boytchev has two PhD students that have defended. He has developed 13 lecture courses, as 9 of them are (or have been) included in the curricula of specialties from FMI, Sofia University: Fundamentals of computer graphics (lectures and exercises), Languages and learning environments (lectures and exercises), Computer graphics with WebGL (lectures and exercises)), Algorithms (lectures and exercises), Virtual, augmented and mixed reality (lectures and exercises - in progress), Computer graphics in teaching (lectures and exercises), Geometry of motion (exercises), Computer graphics (lectures and exercises), Computer systems in teaching (lectures and exercises), Applied computer graphics with Elika (lectures), Applied computer graphics with C (lectures), Journey in computer graphics (video demonstrations), Computer graphics for students (exercises). The content of the current courses is provided to students in electronic form at Moodle FMI. Illustrative material and interactive applications are generated through the author's educational software environments.

These facts allow me to conclude that the lecturing activities of Assoc. Prof. Pavel Boytchev are carried out at a high professional level, whereby he successfully combines standard teaching methods with modern forms of e-learning.

For the past 10 years Assoc. Prof. Boytchev is involved in 14 international, national and institutional scientific, research or applied projects. In 4 of them he takes part within managerial activities.

5. Substantive analysis of the scientific and applied scientific achievements of the candidate contained in the materials for participation in the competition

The original scientific contributions in the publications submitted for participation in this competition are correctly described in Reference document No. 14 prepared by the applicant. I accept the contributions formulated in the report on the results of the applicant's research activities in the works by which Assoc. Prof. Pavel Hristov Boytchev participates in the competition. These results have scientific and scientifically applied nature and can be defined as enriching the existing scientific field with new knowledge.

I was unable to find in the documents submitted to me information about the candidate's contribution to the submitted collective publications. Therefore, I assume that the contribution of all authors is comparable and commensurate.

In my opinion, the aforementioned results characterize the candidate Assoc. Prof. Pavel Boytchev as a well-established scientist with significant achievements, which give reason to claim that he completely covers the concept of a leading researcher in the field of informatics.

6. Critical notes and recommendations

I do not find any deficiencies in the structuring of content, in the accuracy and the completeness of description from a professional point of view, as well as in the presentation of the submitted documents for participation in the competition. I would recommend to the candidate to continue his active teaching work and his collaboration with students and postgraduate students and thus to contribute more fully to the preparation of the next generation of informatics researchers.

7. Personal impressions of the applicant

I believe that the applicant has the skills to work in a team, as an initiative, seeking and problem-solving specialist, who achieves original scientific results with a lot of hard work.

8. Conclusion on the application

Having become acquainted with the materials and scientific works presented in the competition and on the basis of the analysis of their importance and the scientific and applied contributions contained therein, I **confirm** that the scientific achievements meet the requirements of the *Development of Academic Staff Act in the Republic of Bulgaria*, the Regulations for its implementation and the corresponding Regulations of the Sofia University St. Kliment Ohridski for the position of the candidate in the academic position of “Professor” in the scientific field and professional direction of the competition. In particular, the applicant meets the minimum national requirements in the professional field and no plagiarism has been detected in the scientific papers submitted at the competition.

I hereby state my **positive** assessment of the application of Assoc. Prof. Pavel Boytchev, PhD.

II. GENERAL CONCLUSION

On the basis of the above, I **recommend** that the scientific jury proposes to the competent body of choice of the Faculty of Mathematics and Informatics at the Sofia University St. Kliment Ohridski to choose **Pavel Hristov Boytchev** to occupy the academic position of “**Professor**” in the

professional field 4.6. Informatics and Computer Science (Information technology), scientific field
4. Natural Sciences, Mathematics and Informatics.

2.09. 2020

Burgas

Opinion prepared by:

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