

OPINION

Subject: 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 (Information technologies), announced in SG no. 74 of 21.08.2020

By a member of the scientific jury Ana Iovkova Proykova, Prof. Doctor Habil, Ph.D.
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Candidate Eliza Petrova Stefanova, PhD, Associate Professor, Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski "

By order of the Rector of Sofia University ПД 38-496 / 19.10.2020, I was appointed a member of the scientific jury in a competition for the academic position of 'Professor' at Sofia University in the field of higher education 4. Natural Sciences, Mathematics and Informatics; professional field 4.6 Informatics and computer sciences (Information technologies). A set of materials available electronically has been submitted for participation in the announced competition.

The only candidate in this competition – Eliza Petrova Stefanova, PhD, Associate Professor at FMI, Sofia University "St. Kliment Ohridski ", fully satisfies the minimum national requirements under Art. 2b, para. 2 and 3, of the RAS of the Republic of Bulgaria for holding the academic position of "professor" in PN 4.6. Informatics and computer science.

1. General description of the materials

All the necessary documents for participation in the competition are presented in a well-organized directory in the FMI cloud – the application form, the CV, diploma for educational - qualification degree "master", diploma for educational and scientific degree "doctor", diploma for academic position "associate professor", documents related to scientific papers (list of all publications, as well as the full text of the publications submitted for this competition), citations of publications, documents related to the minimum national requirements, reference for teaching and learning activities, incl. work with doctoral students, participation in and management of research projects.

The candidate Assoc. Prof. Dr. Stefanova participates in the competition with twenty-one articles co-authored in scientific journals.

For completeness of the analysis of all activities of Dr. Stefanova, I have considered all submitted materials, including those already used in previous competitions. However, the conclusion of the current opinion is solely based on materials purposefully presented to this competition – scientific papers, applied research. In this opinion I take into account all the international projects participated and led by the candidate.

2. Brief curriculum vitae of the candidate

The candidate was awarded a degree in higher education from the Faculty of Mathematics and Informatics, Sofia University in 1991; the scientific degree "Doctor" in the scientific specialty 4.6 Informatics and computer sciences (Information technologies). She holds the position "associate professor" in the

scientific specialty 4.6 Informatics and computer sciences (Information technologies) at the FMI, Sofia University. Eliza Stefanova's dissertation for obtaining the degree of DOCTOR is entitled "Open virtual worlds for professional production".

Dr. Stefanova has specialized in the Institute of Education, University of London (October-December 2010), has acquired numerous qualifications in the field of network management (Cisco Certified Academy Instructor - CCAI), software engineer with a qualification to apply the model for quality management of software and services. Her participation in national and European research projects and her experience as a team leader is impressive.

3. General characteristics of the candidate's activity

Educational and pedagogical activities

Based on the materials provided to me and my impressions of the work of Assoc. Prof. Stefanova as a lecturer and supervisor of masters and doctoral students, organizer of a large team of university professors and teachers training ICT teachers, I evaluate very high her activities.

The national standards for the teaching of Information Technologies developed by Assoc. Prof. Stefanova are an achievement in the pedagogical activity and are extremely necessary for success in teaching.

Evaluation of the scientific and scientific-applied activities

Assoc. Prof. Stefanova is a co-author of 150 publications in various scientific media, 8 textbooks and 18 manuals for students and teachers. The presented scientific, applied-science and educational work of the candidate show a significant productivity and good work in a team. She has published 38 articles as a result of participating in professional conferences. Her publications are cited in 210 independent articles as indicated in the attached document. This is a good indicator in an area that is very specific.

The candidate's contributions are:

- application of ICT in education (methods of training based on competencies, new methods for assessing training, application of virtual reality in education, application of web services in education);
- analysis of big data sets in education (collection and analysis of big data sets in training systems, methods and tools for analysis and processing of large data sets);
- training of teachers for application of research approach in education (methods and models for application of scientific approach in education, methods and approaches for training of teachers for application of research approach in education, pilot experiments for implementation of research approach in education in Bulgarian schools).

Main scientific contributions:

- Creation of a new method for composing services for application in education;
- Creation of a model for application of the "Inverted classroom" approach;

- Creation of a methodology for applying virtual reality (VR) technology in education.
- Creation of new methods for applying the analysis of large data sets generated by training systems to effectively improve the quality of training.
- Creation of new methods for increasing the competencies of teachers related to the application of the scientific approach.

Main applied-science contributions:

- Creation and application of a new method for training future teachers by integrating and coordinating the practical tasks of design, evaluation, design and development of e-learning courses in a large practical task for creating a real training course;
- Creating a platform for the implementation of a new method for composing services for application in education;
- Identification of the most sought after skills and competencies of ICT graduates according to end users, with recommendations for follow-up measures and actions to the system of secondary and higher education;
- Experimental application of a model of the "Inverted Classroom" approach in a bachelor's course;
- Experimental development and testing of scenarios for the application of VR in training.
- Design and implementation of new services to training systems based on the analysis of large data sets;
- Creation of a new method for data analysis from an electronic training system based on a scientific approach, in order to assess the effectiveness of training and the achievement of the ultimate goals.
- Design, development and implementation of scenarios for application of the research approach in education. A total of 5 scenarios described in publications have been implemented;
- Validation of methods and practices for applying training based on a research approach.

4. Assessment of the candidate's contribution and personal impression

The large number of research articles presented at international fora, the leadership of international projects, supervision of master and PhD students, the candidate successfully demonstrates her personal contribution to the activities held.

I have known Eliza Stefanova personally since 2005. She impresses with her ability to communicate lightly and benevolently. Her extensive knowledge in the field of ICT, as well as her professional focus on the use of ICT for innovative approaches in education make her an interesting interlocutor and a good partner in research and educational activities.

Assoc. Prof. Dr. Stefanova is a focused researcher. She treats pedagogical activities responsibly. In both areas (science and education) demonstrates a strong presence, which is important in a dynamically changing team environment.

CONCLUSION

The results obtained by Assoc. Prof. Dr. Eliza Stefanova in teaching and research fully comply with the specific requirements of the Faculty of Mathematics and Informatics, adopted in connection with the Rules of the Sofia University for the application of ZRASRB.

Opinion: there is no plagiarism in the materials for the competition.

After getting acquainted with the materials and scientific papers presented in the competition, the analysis of their significance and the scientific and applied contributions contained in them, I find it reasonable to give my **positive assessment and recommend** to the Scientific Jury to prepare a report-proposal to the Faculty Council of the Faculty of Mathematics and Informatics for the election of Assoc. Prof. Dr. Eliza Petrova Stefanova to the academic position "Professor" at Sofia University "St. Kliment Ohridski" in the field of higher education 4. Natural sciences, mathematics and informatics; professional field 4.6 Informatics and computer sciences (Information technologies).

Sofia, 1.12.2020 г.

Opinion done by:
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