

OPINION

by Anna Vladova Stoyanova, PhD - Professor at the Technical University of Sofia

of the materials, submitted for the participation in the competition for occupying the academic position Associate Professor at the University of Plovdiv "Paisii Hilendarski"

in the field of higher education 5. "Technical Sciences"

professional field 5.3 "Communication and Computer Technics"

scientific specialty: Automation of areas from the non-material sphere - education, science

1. General presentation of the procedure and the candidate

In the competition for the academic position "Associate Professor" announced in the State Gazette, issue no. 34/03.05.2022 for the needs of the Faculty of Physics and Technology (FPT) at the University of Plovdiv "Paisii Hilendarski" (PU) as the only candidate participates Chief Assistant Diana Velkova Stoyanova, PhD from the department "Electronics, Communications and Information Technologies" (ECIT) of same faculty.

The set of documents for the competition and materials included in it, presented by PhD. Diana Stoyanova meet the requirements of the Act on the Development of Academic Staff in the Republic of Bulgaria, Regulations on the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act and the relevant Rules of PU.

A total of 39 scientific works, 1 Author's abstract of the dissertation for the award of educational and scientific degree "doctor" in 1. "Pedagogical sciences, professional field", 1.3. "Pedagogy of Training in ..." (Methodology of Physics Education), PU and 1 book based on a defence dissertation work for the award of educational and scientific degree "doctor" are attached. All presented works are outside the dissertation work and I accept them for review and for reporting when forming the final assessment to cover the minimum required points by groups of indicators for the academic position "Associate Professor" at PU. There is a reference that 23 scientific publications have been cited 38 times. 17 numbers of the citations are in scientific publications, referenced and indexed in world-renowned scientific information databases, or in monographs and collective volumes her publications have been cited 17 times. The distribution of the scientific works is as follows:

- habilitation work (indicator B4) - 11 scientific publications in English in proceedings of international conferences (8 of which abroad), referenced and indexed in scientific information databases WOS and/or Scopus. 12 citations of these works have been noted;
- publications in referenced issues and indexed in world databases with scientific information (indicator D7) – 7 numbers of publications in English in proceedings of international conferences (7 of which abroad), referenced and indexed in WOS and/or Scopus;
- publications in non-refereed journals with a scientific review or in edited collective volumes (indicator D8) – 21 items (18 of them were published in English and 3 in Bulgarian). 19 papers have been published in edited proceedings from international conferences and 2 – in journals (in the USA and in Bulgaria, respectively).

2. General characteristics of the candidate's activity

I do not personally know Chief Assistant Diana Stoyanova. This opinion is entirely formed from the presented set of materials for the "Associated Professor" competition. The candidate not only meets the set of legal criteria and indicators of the PU "P. Hilendarski" for occupying the academic position "Associated Professor" but also significantly exceeds them due to the following facts:

- PhD Diana Stoyanova completed her master's degree in 1998. in speciality "computer systems" at TU-Sofia, Plovdiv Branch. Her professional career since then has been entirely in the aca-

demic staff of higher schools. She has been a programmer at John Atanasov Technical College in Plovdiv and since 2000 she is an assistant, then senior, and chief assistant at AU-Plovdiv, Department of Informatics and Statistics. Since 2017, the candidate has successively held the positions of assistant and chief assistant at PU "P. Hilendarski", respectively for a short time in the Technical College-Smolyan, and from September of the same year, she has been at the ECIT department. From the attached documents, it is clear that in the last four years, PhD D. Stoyanova had classroom employment between 443 and 677 hours per year, of which the lectures varied between 148 and 170 hours per year. Over the past 4 years, the candidate has led classes in 17 disciplines to full-time and part-time students from various specialties for the "Bachelor" and "Master". She has developed 10 study programs for "bachelor" and 7 programs for "master" in the ECIT department. Electronic courses (lectures and labs) were developed in 8 disciplines. She participated in Erasmus teaching mobility and lectured at the Czech University of Natural Sciences, Prague, Czech Republic, and at the University of Portsmouth, Portsmouth, U.K. The candidate is also a certified lecturer in information and communication systems at ESQA.

- She has had an educational and scientific degree "doctor" since 2016. On the basis of her defended dissertation, a book Stoyanova, D., Using the technology "augmented reality" with mobile devices in physics education, Koala Press Publishing House, 2022, 120 c., ISBN 978-619-261-017-3. The modern information and communication technologies applied in natural science education are presented in the book.

- PhD Diana Stoyanova has 22 certificates for participation with scientific presentations at international conferences. This participation is due to her scientific research activity in PU "P. Hilendarski". There is a document about her participation from 2015 to the present in 4 international projects, 3 national ones (1 project at the Bulgarian National Science Fund and 2 projects under Operational Programs), 5 research projects financed by the "Scientific Research" Fund at the PU "P. Hilendarski" and 2 under National programs "Young scientists and postdoctoral students" at the Ministry of Education and Science.

- The main scientific interests of PhD Diana Stoyanova are mainly in 3 main areas::

- ✓ Statistical methods for dynamic time series analysis to study development trends in various fields of application (plant breeding, marine fisheries, communications, signal processing, etc.).

- ✓ Modern methods and tools for teaching students - use of QR codes and mobile devices, integration of augmented reality technology with mobile devices, use of systems for remote access to laboratory equipment, application of project-based learning.

- ✓ Development of innovative applied mobile educational technologies, software platforms for distance (online) or blended (hybrid) learning, and development of multimedia resources for mobile devices.

- The candidate has submitted more than a sufficient number of scientific works published after the materials for the educational and scientific degree "Doctor" and the competition for the chief assistant. In the presented scientific works, there is a sufficient number of original results of a scientific-applied and applied nature, which received international recognition and were published by international publishing houses. The practical applicability, oriented to the academic work, of the candidate's theoretical developments is impressive.

- The minimum required points by groups of indicators for the academic position "Associate Professor" at PU "P. Hilendarski", scientific field 5. "Technical sciences", professional direction 5.3. "Communication and computer technics" (Automation of areas from the non-material sphere - education, science) are significantly overfilled, respectively: Group of indicators B with 71 points; Group of indicators D with 48 points and Group of indicators D with 162 points. The scientific and scientific-applied results achieved by Chief assistant PhD Diana Stoyanova fully correspond to the specific requirements of the Faculty of Physics and Technology for holding the academic position of "Associated Professor".

3. Critical remarks and recommendations

I recommend to PhD Diana Stoyanova to orient her future scientific publications to more journals, if possible with IF and/or SJR.

CONCLUSION

On the base of the analysis of the presented scientific works, their significance, and the scientific, research, and applied contributions contained in them, **I confidently give my positive assessment** and recommend the Esteemed Scientific Jury to prepare a report proposal to the Faculty Council of the Faculty of Physics and Technology **for the election of** Chief Assistant **PhD Diana Velkova Stoyanova** for the academic position of **Associate professor** at PU "P. Hilendarski" in professional field **5.3. Communication and computer technology** (Automation of non-material areas - education, science).

15/August/2022

Prepared the opinion:

(Prof. Anna Stoyanova, PhD)