

OPINION

On the competition for the academic position of "Associate Professor"
In professional field 5.3 Communication and Computer Technique
Scientific specialty: Computer systems, complexes and networks
Announced in SG issue 45 / 28.05.2021 for the needs of the section "Communication
Systems and Services", Institute of Information and Communication Technologies –
Bulgarian Academy of Science (IICT-BAS)
With candidate: Eng. Ekaterina Angelova Otsetova-Dudin,
Dr., Chief Assistant Professor
Jury member: Eng. Ivan Krumov Kurtev, Dr., Professor

1. General characteristics of the candidate's research and applied research activity

The only participant in the competition Dr. Ekaterina Angelova Otsetova-Dudin graduated as a master engineer in electronics and automation in the specialty "Radio and Television Technique" in the professional field (PF) 5.3. Communication and Computer Technique at the Technical University – Sofia (TU-Sofia) in 1992 with excellent success. In 2015 she was awarded the Educational and Scientific Degree (ESD) "Doctor" in the doctoral program "Communication Networks and System" on the topic of that competition at the University of Ruse (RU) "Angel Kanchev". With this dissertation and scientific publications, referenced and indexed in world-famous databases with scientific information, replacing a monograph, the candidate participates in this competition. After her election as chief assistant professor she is an active participant in national and international projects: 3 successfully completed research projects under R&D at the University of Telecommunications and Posts (UTP); 3 projects under Operational Programs (European funds) in UTP - 2 successfully completed and 1 currently under implementation; 1 at BAS under the Bulgarian National Science Fund (BNSF), currently being implemented. Her research and applied activities are in the field of computer and communication systems, networks and modern technologies, as well as in the field of e-learning (e-L). As a summary of the above, my assessment of the candidate until his participation in this competition is: high qualities shown in the field of research and applied activities (indicator E).

Regarding the implementation of the minimum national requirements for academic position (AP) "Associate Professor" in this competition, according to the national requirements and the Regulations of IICT-BAS, Chief Assistant Professor Dr. Ekaterina Angelova Otsetova-Dudin participates in it with: indicator A (dissertation for ESD "Doctor") with 50 points; indicator B (10 scientific publications instead of a monograph, referenced and indexed in world-famous databases with scientific information-B4) with 151.07 points as a required number of 100 points; indicator G (scientific publications) with 227.36 points as a required number of 220 points; D (cited) with 172 points as a required number of 50 points; indicator E (E18 - Participation in a national scientific or educational project) with 110 points as a required number of 20 points.

From the above I can conclude that the candidate significantly exceeds the implementation of the minimum national and specific for IICT-BAS requirements for the habilitated AP "Associate Professor".

2. Assessment of the pedagogical preparation and activity of the candidate

The candidate in the current competition Dr. Ekaterina Angelova Otsetova-Dudin has many years of pedagogical experience throughout her career so far and a high level in the field of teaching on the subject of the competition. From the end of 1996 until her participation in this competition she was successively a teacher in school, mainly in the upper course, and in higher education since 2005 as: lecturer and head of the Center for

professor from 2015 until now at UTP. In UTP she teaches classes in 6 disciplines and in the last three years 3 of them and lectures too. She is a supervisor of 88 semester course projects and exam procedures. For the specified period in UTP she is also a scientific supervisor of 17 successfully defended graduates and a reviewer of 8 diploma theses for professional bachelor's and master's degrees, as well as a member of educational and examination commissions for defense of diploma theses. She is a co-author with the participation of 50% of a textbook in the subject of this competition - a guide for laboratory exercises - in one of the disciplines in UTP.

With all the above I can conclude that according to this indicator the candidate in this competition has a proven high pedagogical training and activity, and by the time of participation in this competition has shown a large volume of teaching and pedagogical activities.

3. Main scientific and scientifically-applied/ contributions

The candidate in this competition participates with a total of 34 scientific papers outside his dissertation and her participation in a competition for non-habillitate AP "Chief Assistant Professor": 10 referenced and indexed co-authored publications/, replacing habilitation work / monograph on indicator B4 in referenced and indexed in world-famous databases with scientific information publications in the period 2012-2021; with 2 co-authored publications/ on Indicator G7 (in refereed and indexed editions), with 11 publications of which 3 stand-alone on Indicator G8 (in non-refereed journals with scientific review) and with 1 university textbook with 50% participation. I do not consider №22 and №27 from the list of scientific publications. All scientific papers are in the fields of Sensor Computer Systems, Wireless Networks, Computer Simulation Methods, Distance Data Exchange, Protection of Computer and Communication Networks and Systems, Distance Learning, on the subject of this competition. The candidate indicates that a total of 16 contributions have been achieved, of which she classifies as scientific 3 of them, for scientifically applied 5 and applied 8, which I evaluate as such. For scientific contributions in the works on indicator B4 I accept, classifying them as proving with new means of significant new aspects of already existing problems and hypotheses: proposed advanced algorithm for measuring QoS parameters in IPv6; developed a simulation platform for evaluation of data transmission in various traffic networks; developed approximation method with compressed cosines. For the scientifically applied contributions in the works on indicators B4 and G7, I evaluate as basic, which I consider to be the creation of new classifications, methods, constructions and technologies: assessment of the probabilities of QoS parameters; evaluation of software platforms for simulation scenarios and modules in teletraffic engineering; a method for protecting web-based applications from hacker attacks and server OS vulnerabilities. For applied contributions in the works on indicators G7 and G8 I define as basic, which I classify as receiving confirmatory facts: analysis and results obtained from the introduction of various models for distance learning; a description of an architectural model of a communication network management system in which the nodes are composed of an object and a management application with a connection based on SNMP (Simple Network Management Protocol); conducted research on the security of data transmitted in computer networks; analysis of risks related to the technical and functional equipment of the 5G networks, as well as various breakthrough techniques in these networks.

In my opinion, the contributions are the personal work of the candidate, as indicated in the "Declaration for lack of proven plagiarism" attached to the documents for this competition. The citations of the scientific works of the candidate are 22 in representative scientific national and international publications/ according to the already mentioned normative indicator D - achieved 172 points with a required minimum of 50 points, such as: 7 of authors from abroad out of a total of 16 in peer-reviewed scientific journals, 4 of authors from abroad from a total of 6 in unreferred scientific journals.

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4. Significance of contributions to science and practice

Analyzing the contributions achieved in the works of the candidate, my assessment is that they defend their significance and relevance for science and practice. Also, the mentioned scientific and scientifically applied contributions are in the field of the subject of that competition. I also assess that the quantitative indicators of the criteria for borrowing the habilitated academic position of "Associate Professor" have been met, and in some cases exceeded. Taking into account the overall participation of the only candidate in this competition in projects, international scientific events and citations, a total of 22 of the scientific papers submitted for participation in the competition in refereed and non-refereed scientific national and international publications, I can confidently conclude about the fame and recognition of the participant in this competition among academics circles at home and abroad.

All of the above allows me to give a positive assessment of the importance of the contributions made to science and practice by the candidate participating in this competition
- Chief Assistant Professor Dr. Eng. Ekaterina Angelova Otsetova-Dudin.

5. Critical remarks and recommendations

The documents for participation of the only candidate in this competition are presented at a very good level. I can point out two critical remarks in the presented materials: 1) the contributions should be indicated separately, grouped as scientific and separately as scientifically applied, achieved first in the scientific papers, replacing the habilitation work / monograph on indicator B4, and then also grouped by all papers from indicators G7 and G8; 2) in a number of places in the submitted documents there are formal spelling mistakes that would have been avoided by applying a modern language editor.

I consider the made remarks definitely as stylistic and formal, which do not reduce my assessment of the presented scientific works of the candidate. My recommendation is shortly after the acquisition of the habilitated academic position "Associate Professor" to form a team of active young professionals, doctoral students and students from different universities for future development of current topics in this competition in the field of modern computer and communication systems, application of new technologies in them and further improvement of e-distance learning.

CONCLUSION

My overall assessment for the submitted scientific papers of the only participating candidate is positive. There are enough scientific and scientifically applied contributions to participate in this competition. These papers meet the requirements of the Law for the Development of Academic Staff in the Republic of Bulgaria, its Regulations and the Regulations of IICT-BAS for holding the habilitated academic position "ASSOCIATE PROFESSOR", as most of the quantitative indicators of the criteria for holding this habilitated academic position are exceeded.

On the basis of my acquaintance with the presented scientific works, their significance, the scientific and scientifically applied contributions contained in them, I find it reasonable to propose Chief Assistant Professor Dr. Eng. Ekaterina Angelova Otsetova-Dudin to take the habilitated academic position "ASSOCIATE PROFESSOR" in the professional field 5.3. Communication and Computer Technique in the specialty " Communication Systems and Services ".

Date: September 1st, 2021.

