

# Opinion

## On concourse

for achieving the academic position of "Associate Professor", professional field 5.3.  
"Communication and computer technique" for the section "Communication  
systems and services", announced in the State Gazette no. 45 from 28.05. 2021

**Member of the Scientific Jury:** Assoc. Prof. PhD. Tatyana Ivanova Ivanova,  
Lecturer at the Technical University - Sofia, College of Energy and Electronics, Botevgrad

**Candidate:** Chief Assistant Prof. Eng. PhD Ekaterina Angelova Otsetova-Dudin

The only candidate in the concourse is Dr. Ekaterina Angelova Otsetova-Dudin, who obtained his master's degree in Electronics and Automatics at the Technical University - Sofia. She defended her dissertation for the educational and scientific degree "Doctor" in the specialty "Communication and Computer Engineering" on "Modeling and simulation of rare events in the handover of broadband cellular radio networks" in 2015. She worked as a teacher of informatics in PG K. Fotinov, Samokov and then as Chief Specialist in Distance Learning, Assistant and Chief Assistant at the College of Telecommunications and Posts, Sofia.

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

Dr. Ekaterina Otsetova-Dudin has presented a complete set of necessary documents, which characterize in detail her research and organizational activities. The list of Dr. Ekaterina Otsetova-Dudin's scientific works includes 33 scientific publications (ten of which are equivalent to a monograph) and one textbook. 12 of her scientific publications are articles published in scientific journals, indexed in Scopus or Web of Science. 4 of these publications have an SJR rank (impact factor). 21 other publications are peer-reviewed and published in journals or conference proceedings, indexed in other important scientific libraries such as Google Scholar, Research Gate, Pro Quest. The candidate is the first author of 14 of the publications, which shows her leading contribution to the conducting of the research and presentation of their results. The importance of she's publications is evidenced by 22 presented citations, 16 of which came from sources indexed by Scopus. Dr. Ekaterina Otsetova-Dudin has also participated in 10 national and international research projects.

### 2. General scientific, scientific-applied and applied contributions

The candidate has classified his contributions in the following main directions: in the area of sensor computer systems, computer simulation methods, remote data exchange, protection of computer and communication networks and systems. 22 contributions are listed, including 3 scientific, 3 scientific-applied and 16 applied contributions The most significant contributions are:

- The developed driver for laser diode, controlling the intensity of the laser beam of red, green and blue laser diodes, as part of a system of multimedia laser projector;

- Developed software for generating high quality laser projections, supporting CAD data from various design systems;
- The developed advanced algorithm for simulation study of the probabilities for occurrence of rare events and estimation of the QoS parameters in IPv6 based network architectures, realized by applying the method for accelerated simulation RESTART
- The developed software platform (based on .NET), for simulation of various scenarios and educational modules of educational content in teletraffic engineering.
- The developed communication strategy for distance learning at the College of Telecommunications and Posts, based on the Moodle platform.
- The presented architectural model of a communication network management system;
- The method of protecting web-based applications from hacker attacks and vulnerabilities on the part of the server operating system based on the ModSecurity module.

### **3. Significance of scientific works and contributions**

The importance of candidate's scientific papers is shown by the higher number of citations from referenced sources (16 are citation sources, indexed in Scopus of total 22 presented citations).

### **4. Opinions and recommendations**

The candidate has extensive experience and significant achievements as a researcher and participant in national and international research projects. A technical error was made in the report on the contributions: on page 1 the author talks about 11 scientific publications in non-referenced sources, but the number of publications actually is 21. I would recommend the candidate in the future to focus mainly on publishing in reputable journals or conferences indexed in Scopus or WoS, including those having an impact factor.

### **Conclusion**

From the presented summarized data on important criteria in tables it can be seen that the candidate meets all the requirements for holding the academic position of "Associate Professor". Moreover, on most of the criteria present materials show their significant over fulfillment. Therefore, I strongly recommend to the Distinguished Scientific Jury of IICT-BAS to elect Chief Assistant Professor PhD Ekaterina Otsetova-Dudin for the academic position of "Associate Professor" in the professional field 5.3. "Communication and computer technique".

