

## EVALUATION STATEMENT

Prof. ds. Ognian Nakov

Member of scientific jury on a competition for the occupancy of an academic position "Professor" in the field of higher education 5 Technical sciences, professional direction 5.3 "Communication and computer science", scientific specialty (System programming), announced by University "prof. d-r. Asen Zlatarov" – Burgas (State Gazette, issue 5 date 17.01.2020) to the department of "Computer systems and technologies"

The only one candidate in the competition is associate professor ds. eng. Stanislav Denchev Simeonov. He meets the minimal national requirements to the scientific and teaching activity of scientific fields and professional directions to occupy an academic position "Professor", according to the indicators of article 26 paragraphs 2 and 3 of the Law of growth of the academic staff in Republic of Bulgaria and the requirements on article 73, on the Regulation of the conditions and order of acquisition of scientific degrees and occupancy of an academic positions in University "prof. dr. Asen Zlatarov" – Burgas.

Assoc. prof. ds. Eng. Stanislav Denchev Simeonov is a graduate of the Technical university of Chemnitz, Germany. He was a PhD candidate, faculty of "Electrical engineering and computer technology" of the same university. In 1994 he defended a dissertation thesis. Since 2001 the candidate is taking academic position "Associate professor" in professional direction 5.3. Since 2011 he is a chief department "Computer systems and technologies" and a vice dean of scientific and research activity in the Faculty of technical science in University "prof. d-r. Asen Zlatarov" – Burgas.

The candidate participates in the current competition with totally of 62 works excluding the ones presented for the acquisition of academic position "Associate professor" and educational degree "Doctor", as follows:

- 1 pc. of Monography, indicator - V3;
- 1 pc. of education material, indicator - E24;
- 21 pcs. of scientific publications in issues, referred and indexed in worldwide bases – Scopus, indicator - G7;
- 49 pcs. of scientific publications, printed in journals and magazines with scientific review, indicator – G8.

The scientific publications are placed in specialized journals, periodical academic issues and collective issues of scientific papers of international university conferences held in the country and abroad. An article: "Almost Periodicity in Impulsive Fractional-Order Reaction-Diffusion Neural Networks With Time-Varying Delays" is presented in the journal IEEE Transactions on Cybernetics, 2020, Print ISSN: 2168-2267, Online ISSN: 2168-2275, with an impact factor of 11.47

The accomplishment of the basic indicators according to the Unified national requirements, in compliance with the Regulation of the conditions of occupancy of an academic positions in University "prof. d-r. Asen Zlatarov", Appendix No 1 defining the



requirements of academic position "Associate professor" on a field 5 Technical sciences are arranged in a table.

Group of indicators	Minimal number of pints	Candidate points	Points on main group indicators	
A	50	50	Certificate of recognition and issue date: 604- IIAC (VAK) / 29.06.1996 by Protocol No/date: 13 / 29.05.1996	
V	200	217	3	100 pts. monography and publications
G	500	539.5	7	220
			8	319.5
D	200	302	12	230 sample of selected citations by Scopus
			13	
			14	72 – sample of selected citations
E	200	701	17	80
			18	40
			19	60
			20	60
			21	80
			22	441
			24	10
Total:	600	1592.5		

The contributions are mainly of applied science type and can be presented as follows:



## A. Scientific

### Operating systems – real time, system programming, computer networks

- A classification of objects for management in real time has been performed. Modular objects concept by management in systems of real time type was built. Problems in planning of a set of tasks in single processor and multiprocessor machines were researched. Theoretical models for planning of multitasking in real time have been developed and also recalculation of the terms of keeping the criterion for real time [8], [9], [10], [11];
- A theoretical model and a development of distributors based on fast timers is presented along with a present programming environment. A working version of general-purpose operating system along with a plugin of a real time distributor has been implemented;
- Modelling and parameterization of the real time operating systems distributors. Composite distributors by virtualization of real time systems have been modelled and implemented;
- Theoretical concept of implementation of linear structures and stacks of the operating system in a core mode for recognition and processing of attacks in the computer networks [4], [5], [16], [19], [20];
- Development of theoretical model for implementation of virtual driver with an application by high intensity communications in computer clusters and parallel systems. The problematic is related to the avoidance of unnecessary delays by importing and exporting of large quantities of memory, in high intensity calculations. The implementation of light hardware – programming mechanism – Door Bell [22], [23].

### Modelling of linear and nonlinear processes.

- Mathematical modelling of neural networks by the aid of impulse differential equations. Research of extremal values in the functional description and also impulse impacts theoretical and application aspects in the field of analysis and development of nonlinear impulse systems [4], [5], [13], [14], [15];
- Target impulse interferences in the system dynamics which is used to investigate the possibility for controlling by pulses, criteria for exponential stability by using of continuous Lyapunov function. The research is theoretical and it is based on simulation of the impulse impact over the stability of n-dimensional networks classes by unlimited delays and extremal values for the pulse magnitude. The stability criteria have been specified by using the Lyapunov function; [13], [14], [15].

## B. Applied science

- The structure of specific computer interface for blind was presented;
- The programing interface of open source systems has been researched. A model for voice communication in the interface for blind people has been investigated [36], [37], [38], [40], [42], [43], [44], [49];
- A formal description and modelling of the motion of mobile platforms with chains has been presented. A robotic platform as open source system for the study of students in automation has been created [54], [55], [56], [57], [60];
- Ontologies for digital library of Bulgarian museum collections have been used [61], [62];



- A patent of Republic of Bulgaria No. 66527/28.04.2016 – Brail display, D. Karastoyanov, S. Simeonov has been issued;
- A patent RB No. 110795/11.11.2010 - Brail display, A. Dimitrov, Karastoyanov, S. Simeonov has been requested.

I evaluate the candidate contribution positively and corresponding to the regulation requirements.

A list of total 59 citations has been presented, 35 of which are found in international databases Scopus and Web of Science. It is obvious that the scientific results of the candidate are cited by authors working in similar research directions.

The candidate presented also a list of contracts and competition projects won with his participation in national and international scale. He is the leader on most of the competitions. He is successfully working with partners from the country (TU Sofia, Sofia university, IICT BAS, Port infrastructure), along with partners from abroad (TU Chemnitz, Germany, TU Munich, Germany, TU of Prague, Czech Republic and etc.). He is the leader on the scientific team in the project USITe – University for Science, Informatics and Technologies in the e-community.

As can be seen by the bio – associate professor eng. ds. Stanislav Simeonov possess a long experience as a teacher (approximately 30 years). He has a rich educational activity in Burgas free university and University “prof. d-r. Asen Zlatarov” – Burgas. He held lectures on fundamental and profiling disciplines. In correspondence with the reference presented he is a leading lecturer and he developed scholar programs in the following disciplines:

- Computer systems – specialty “Software engineering”, EQD “bachelor”;
- Signals and systems – specialties “Software engineering”, “Computer systems and technologies KST”, “Electronics”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”;
- Computer architectures – specialties “Computer systems and technologies KST”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”;
- Computer networks – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”;
- Communication technique – specialties “Software engineering”, “Computer systems and technologies KST”, “Electronics”, EQD “bachelor”;
- Wireless networks – specialties “Software engineering”, “Electronics”, EQD “bachelor”;
- System programming – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “master”;
- Network administration – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “master”;
- UNIX/Linux – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “master”;
- Digital signals processing – specialty “Electronics” EQD “master”;
- Computer systems – specialty “Software engineering” EQD “bachelor”;



- Signals and systems – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”;
- Computer architectures – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”;
- Computer networks – specialties “Software engineering”, “Computer systems and technologies KST”, EQD “bachelor”, specialty “KST”, EQD “professional bachelor”.

He has held the courses and the study of specialists in network administration, Unix/Linux by different organizations. He is certified CISCO Academy Program Instructor.

He held lecture courses and consulted graduates in the Technical university of Sofia, Technical university of Gabrovo, Shumen University and etc.

He held lectures in “Erasmus” program and other international programs in the technical universities in Germany, Turkey, Malaysia, USA.

He is the supervisor of three successfully graduated PhD candidates.

He is a mentor and reviewer of successfully graduated graduates.

I know Associate professor, ds., eng. Stanislav Simeonov and I have personal impression of his qualities. My impressions of the candidate in the competition of “Professor” are definitely positive as he is thorough and precise researcher, competent and responsible organizer and lecturer with proven abilities. He possesses skills for team work, forms creative environment while passing the knowledge. All of this is a prerequisite for his future work.

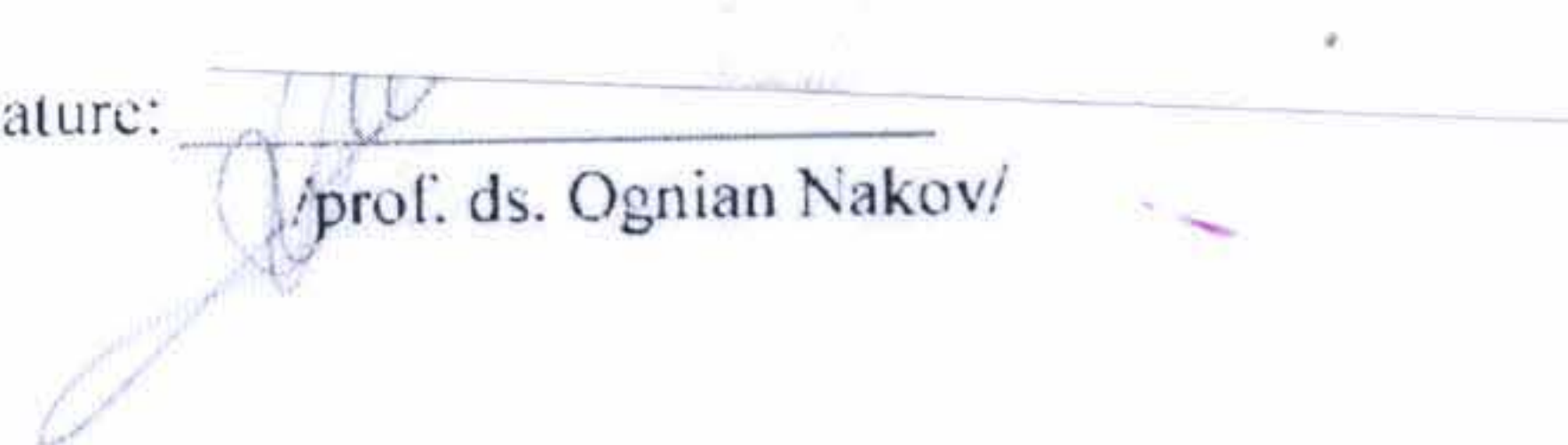
Based on the facts exposed, I reckon that in terms of volume and quality, the scientific research and applicable science work of the candidate meets the regulations on application of the law of growth of the academic staff in Republic of Bulgaria and the regulation of the specific conditions for the acquisition of scientific degrees and occupancy of an academic positions in Republic of Bulgaria. The quantitative indicators of the regulations of University “prof. dr. Asen Zlatarov” - Burgas for the occupancy of an academic position “Professor” have been fulfilled.

That gives me basis to confidently propose to the honorable members of the Scientific jury to vote unanimously to award associate professor, ds. Stanislav Denchev Simeonov the academic position “Professor” in field of higher education 5 Technical sciences, professional direction 5.3 “Communication and computer science”, scientific specialty (System programming).

10.08.2020

Burgas

Signature:

  
/prof. ds. Ognian Nakov/