



## REVIEW

For Assoc. Prof. **Stanislav Denchev Simeonov, PhD**

Competition for the academic position of "**Professor**" in the professional direction 5.3

"Communication and Computer Engineering" specialty "System Programming"

**Reviewer: Acad. Ivan Petkov Popchev - BAS**

By the Order No. RD-109, Burgas, 01.06.2020 of the Rector of the University "Prof. d-r Asen Zlatarov" Prof. Magdalena Mitkova, PhD I have been confirmed as a member of the Scientific Jury in the Competition for the academic position "Professor" in the professional field 5.3 "Communication and Computer Engineering" specialty "System Programming", announced in State Gazette no. 5/17.02.2020

As a reviewer, I received all 18 documents submitted for participation in the Competition.

According to the Act of the Development of the Academic Personnel of the Republic of Bulgaria, The Rules for the Implementation of the Act of the Development of the Academic Personnel of the Republic of Bulgaria and the requirements for holding academic positions at the University "Prof. d-r Asen Zlatarov", the candidates for professor must meet certain conditions.

Art. 29. (1) The candidates for holding the academic position "professor" must meet the following requirements:

1. Have acquired the educational and scientific degree "PhD";
2. Have held the academic position of Assistant Professor at the same or another higher education institution or scientific organization for at least two academic years;
3. Have submitted published monographs or equivalent publications in specialized scientific journals... that do not repeat those submitted for the degree of PhD, the Doctor of Science and the academic post of Associate Professor;
4. Have presented other original research works, publications, inventions and other scientific and applied developments or artistic achievements that are evaluated in aggregate.
5. Meet the minimum national requirements under Art. 26, par. 2 and 3, respectively, of the requirements of art. 26, par. 5;
6. Not to have plagiarism in scientific works proven by law.

(3) Candidates shall submit a report on the implementation of the minimum national requirements under Art. 26, par. 2 and 3, respectively, of the requirements of art. 26, par. 5,

and a reference to the original scientific contributions to which the relevant proofs set out in this Act are attached, in the regulations for its implementation and the regulations of higher schools and scientific organizations.

According to the Rules for the requirements for holding academic positions at the University "Prof. d-r Asen Zlatarov", Appendix No. 1 the following minimum required points by groups of indicators are required:

### 5.3 "Communication and computer technology"

| Group of indicators | Content                                  | Professor |
|---------------------|--|-----------|
| A                   | Indicator 1                              | 50        |
| C                   | Indicators 3 or 4                        | 200       |
| D                   | Sum of indicators from 5 to 11           | 500       |
| E                   | Sum of points in indicator from 12 to 15 | 200       |
| F                   | Sum of points in indicator from 16 to 28 | 200       |

Assoc. Prof. S. Simeonov, PhD **meets the requirements of Art. 29 (1).1** as he has submitted a Certificate from the Higher Attestation Commission for the scientific degree "Candidate of Technical Sciences" No. 604 - Higher Attestation Commission, Sofia, June 1996

Assoc. Prof. S. Simeonov, PhD **meets the requirements of Art. 29 (1).2** according to the presented Certificate No. 227/11.05.2020, signed by the Rector Prof. Dr. M. Mitkova in the assurance that he is an associate professor from 20.04.2011 to the present.

Assoc. Prof. S. Simeonov, PhD **meets the requirements of Art. 29 (1).3** as he has submitted a published collective monographic work in Bulgarian:

S. Simeonov. **Real time in autonomous mobile and static mobile systems - challenges and solutions.** Monograph 183 pages. Publishing House University "Prof. d-r Asen Zlatarov. Reviewers: Prof. Gani Stamov, PhD, Prof. Sotir Sotirov, PhD, Assoc. Prof. Ivan Evgeniev, PhD, Burgas 2019. ISBN 978-619-7559-04-0, CD-ISBN 978-619-7559-04-7. Bibliography 131 titles.

The documents in the Competition included "**List of selected scientific publications**" of 63 publications.

The 63 titles submitted for participation in the Competition can be systematized as follows:

- 7 publications in journals with SJR and IF (Nos. 4, 5, 8, 9, 13, 14, 15);
- 1 dissertation - monograph (No. 1);
- 1 monograph (No. 2);
- 1 textbook (No. 3);
- 20 publications are in journals and works abroad;

- 33 publications are in conference proceedings in Bulgaria;
- 5 publications are independent;
- 4 publications are in Bulgarian (NNo. 2, 3, 53 and 63).

The candidate has participated in 17 conferences and forums abroad and 10 conferences and forums in Bulgaria.

The "**List of citations of scientific publications**" consists 59 citations of 21 publications submitted for the Competition.

**Assoc. Prof. S. Simeonov, PhD meets the requirements of:**

- **Art. 29 (1).4** because he has presented other original research works, publications, ... and other scientific and applied scientific works;
- **Art. 29 (1) .5** as he meets the minimum national requirements under Art. 2 b, para. 2 and 3, respectively to the requirements under Art. 2 b, para. 5. He is presented under Art. 29 (3) declaration (9 pages) for fulfillment of the minimum national requirements as number of points;
- **Art. 29 (1) .6** as there is no legally proven plagiarism in scientific works.

According to Art. 29 (3) the candidates shall submit a "**Reference for the original scientific contributions**". The candidate in the Competition presents "**Information on the scientific contributions of the works**" in a volume of 12 pages.

**The reviewer evaluates positively the presented 14 publications, which cite the works of the candidate.**

The contributions to the publications submitted for participation can be summarized as follows:

1. A classification of real-time control objects is proposed. Given in the concept of modular objects for real-time management by creating conditions for research and virtualization of real-time operating systems (No. 1).
2. Real-time operating systems are studied and the problem of planning the processing of aperiodic and periodic tasks and realization and planning of a polling server is presented, the problem of planning is formalized. Models for real-time multitasking planning are proposed (NNo. 1, 8, 9, 10, 11).
3. With the help of pulse differential equations neural networks are modeled, the dynamics of systems described with neural networks is studied (NNo. 24, 25, 28, 29, 30).
4. A set of criteria for operational stability using the Lyapunov continuous function has been studied. The impulse effect on the resistance of a class of neural networks at delays and the pulse size was determined (NNo. 24, 25, 26, 28, 29, 30).
5. The structure of a specialized computer interface for the visually impaired people is presented. The software interface of open source systems has been studied. A

model for voice communication in the interface for the visually impaired people has been proposed (Nos. 36, 37, 38, 40, 42, 43, 44, 45, 49).

6. A formal description and modeling of the movement of mobile chain platforms is given. A robotic platform has been created as an open source system for teaching students in automation (Nos. 54, 55, 56, 57, 60).
7. Ontologies for digital library of Bulgarian museum collections were used (NNo. 61, 62).
8. Patent No. RB 66527/28.04.2016 Braille display, D. Karastoyanov, S. Simeonov is issued.
9. Patent of the Republic of Bulgaria No. 110795/11.11.2010 Braille display, A. Dimitrov, D. Karastoyanov, S. Simeonov is requested.

The candidate in the Competition since **2001** as associate professor and deputy Dean at Burgas Free University and since **2011** at the University "Prof. d-r Asen Zlatarov " as associate professor, head of department and deputy Dean of the faculty actively and successfully develops teaching and project-research activities, which can be briefly documented as follows:

1. **According to the "Information on teaching activities"** (Issue No. 1895/18.05.2020), signed by the Director of the Training and Information Center Assoc. Prof. Dr. S. Simeonov for the period 2011 - 2020 there are 10 lecture courses and 10 developed curricula.
2. **By Certificate** (issue No. 1167/27.04.2020), signed by the Rector Prof. M. Mitkova, PhD it is certified that Assoc. Prof. S. Simeonov, PhD has supervised three defended PhD students in professional direction 5.3
3. **By Certificate** (No. NI-01-13-58 / 29.04.2020), signed by the Head of NIS Assoc. Prof. Svetlana Jeleva, PhD it is certified that Assoc. Prof. S. Simeonov, PhD has participated in:
  - I. National projects - 3, of which 2 as a head team.
  - II. Internal institutional projects - 6, of which 5 as a head team.
4. **By Certificate** (issue No. 1283/18.05.2020), signed by the Rector Prof. M. Mitkova, PhD it is certified that Assoc. Prof. S. Simeonov, PhD has participated/participate in 2 topics to The University of National Projects, of which in 1 topic as head team.
5. **By Certificate** from 18.05.2020, signed by the Vice-Rector of NID and the CM of BSU it is certified that Assoc. Prof. S Simeonov, PhD has participated in: National projects - 1, as a head team, International projects - 1, of which 1 as project manager.
6. **By Official Note** dated 15.05.2020, signed by Assistant Director of IICT Prof. Dimitar Karastoyanov, PhD makes sure that Assoc. Prof. S. Simeonov, PhD is a head team under contract with NSF-MES No. IDog-14/2010 - 2013.

7. **By Official Note** (Rectorate No. 223/20.05.2020, Sofia), signed by Prof. Ivan Kralov, it is certified that Assoc. Prof. S. Simeonov, PhD has participated in the team of the project Contract No. DDVU 02/56 of 2010.
8. **In the Agreement** of 25.06.2009 for joint participation in the Competition "Development of the scientific structure" - 2009 between NIS at TU - Sofia, BSU and VTU "T. Kableskov" Assoc. Prof. S. Simeonov, PhD is a head team for BSU.

**The reviewer considers that any redundant comment is more than superfluous.**

As a generalized "scientometric image" of Assoc. Prof. Stanislav Simeonov, PhD three excerpts can be made from the world's scientific bases:

- **Scopus**: 21 cited documents, 31 citations, h-index 4;
- **Web of Science**: 18 total publications, 18 without self-citations, h-index 3;
- **Scholar.google**: 93 citations, h-index 6, i10 – index 2.

The three dimensions of the "scientometric image" provide enough information for introspection and new activities.

I have known Assoc. Prof. Stanislav Simeonov, PhD since his entry into the BFU in 2001 and I can definitely define his qualities, which he proved as a successful researcher, organizer and expert.

## **CONCLUSION**

All requirements of the Act of the Development of the Academic Personnel of the Republic of Bulgaria, The Rules for the Implementation of the Act of the Development of the Academic Personnel of the Republic of Bulgaria and Regulations for holding academic positions at the University "Prof. d-r Asen Zlatarov" have been fulfilled and I give a definitive **positive** conclusion for the selection of Assoc. Prof. Stanislav Simeonov, PhD in a Competition for the academic position "Professor" in professional field 5.3 "Communication and Computer Engineering", specialty "System Programming".

**I propose to the Scientific Jury unanimously vote on a proposal to the Faculty Council of Technical Sciences to elect Assoc. Prof. Stanislav Simeonov, PhD for the academic position of "Professor" in professional field 5.3 "Communication and Computer Engineering", specialty "System Programming".**

21.08.2020

Reviewer: .....

Acad. Ivan P. Popchev