

REVIEW

**for the competition for the academic position Associate Professor in
Professional field 5.3. Communication and Computer Techniques,
Scientific specialty “Systems with intelligent behavior”,
announced in the State Gazette Vol. 70 from 20. 08.2024,
for the needs of the section Computer and Informational Technologies of
University “Prof. Dr. Assen Zlatarov” – Burgas
Candidate: Sen. Assistant Prof. Todor Petkov Petkov, PhD**

1. Sen. Assistant Professor Todor Petkov was born on March 15, 19898 in Pomorie, Bulgaria. In 2012 he completed a master program “Computer Systems and Technologies”. In 2016 he acquired the educational and scientific degree “Doctor” at the University “Prof. Dr. Assen Zlatarov” – Burgas. The theme of his dissertation thesis is “Generalized nets modelling of neural networks” I and Prof. Sotir Sotirov were his scientific advisors. Since 2016 he has held the position of Senior Assistant Professor at University “Prof. Dr. Assen Zlatarov” – Burgas.

2. According to the *Author’s summary*, Sen. Assistant Prof. Todor Petkov takes part in the competition with 32 scientific works: 11 papers presented as a habilitation thesis and 21 papers for participation in the competition. Out of them, 4 papers have IF, 13 have SJR. Therefore, the candidate meets the minimal requirements of University “Prof. Dr. Assen Zlatarov” – Burgas and the Regulations for the Conditions and Order of Acquiring of Scientific Degrees and Holding Academic Positions in the Republic of Bulgaria. To the works of the candidate, the textbook “*Manual for Digital Schema Technique*”, published in 2016 (ISBN 978-619-7123-50-0) with co-authors Sotir Sotirov and Liliya Staneva.

3. I accept the author's summary of the contributions in the papers for participation in the competition of Sen. Assistant Prof. Todor Petkov. In essence, the results can be divided into scientific, applied scientific and applied. I will not go into details about the contributions of the candidate. I am a co-author in two of the papers ([5,27]) which gives me the opportunity to underline the important role of the candidate in the writing of the papers. Also, I have been a reviewer of a large part of the remaining papers. It is worth mentioning that 75% of the publications are related to various areas of Informatics, Computer and Information Technologies in which I work (Generalized nets, Intuitionistic fuzzy sets and Intercriteria analysis) and I would gladly mention that Todor Petkov has a significant role in the application of the apparatus of the Generalized nets in the modelling of various types of Neural networks; of the apparatus of the Intuitionistic fuzzy sets in the estimation of the parameters of the neural networks, as well as in the use of intercriteria analysis for the study of data from various areas.

All publications presented for participation in the competition are original and published in journals related to the theme of the competition.

In my opinion, if 4 of the 11 papers presented as a habilitation thesis, namely [4,7,10,11], are substituted by 5 or 6 of the remaining publications, among which [22,23,25], these publications would be a base for a real habilitation thesis and why not a monograph. Something that I recommend to the candidate to do in near future.

I have studied carefully the presented publications and especially those which I have not seen or reviewed. As a whole, they are correct and well-written. I have small remarks about two of them – [6, 17], related to the type of some of the logical expressions, representing the type of the transitions – the places of the operations conjunction and disjunction are interchanged. I think that publication [13] would be more informative if one and the same persons (at least 4 different) expressed seven different emotions and not the states to be illustrated by 28 different persons.

I cannot comment on the papers devoted to properties of chemical compounds but even the fact that they are published in journals with impact factor with the participation of Prof. Ovanes Mekenyan is a guarantee for their high scientific value.

4. Sen. Assistant Prof. Todor Petkov has presented a list with 102 citations of which 41 refer to the paper [5]. In Internet I found out that this paper has already 50 citations while 4 of the presented citations must be excluded because they are in papers some of the authors of which are also authors of [5], including me. For the same reason, another 9 citations must be excluded but the remaining 89 are much more than the required. I will note that my review was already prepared (on January 3, 2025) when I received a letter from the Chairman of the Scientific Jury Prof. Sotir Sotirov through which he informs the members of the Jury that the candidate has also found mistakes in the list with citations. Therefore, I withdraw my remark.

5. From the presented "*Reference for teaching activities...*" it can be seen that Sen. Assistant Prof. Todor Petkov has taught 12 different disciplines all of which closely related to the present competition. A list with 11 graduates of Sen. Assistant Prof. Todor Petkov is presented – which is a significant number when compared with the information about other universities in Bulgaria.

6. According to the presented documents, Todor Petkov has taken part in 5 international, 2 national (with Bulgarian National Science Fund) and 6 scientific projects within University "Prof. Dr. Assen Zlatarov" – Burgas, to one of which the candidate has been a coordinator.

7. The quantitative indicators of the criteria for acquiring of the Academic position "Associate Professor", specified in the Law on Academic Staff Development in the Republic of Bulgaria, the Regulations for its implementation and the Specific

requirements of the University “Prof. Dr. Assen Zlatarov” – Burgas are satisfied. All indicators meet the requirements.

8. I know personally the candidate since the time when he was my student at the University “Prof. Dr. Assen Zlatarov” – Burgas. Since then, I have had an opinion that he is very organized and purposeful in his scientific research activities.

Taking into account the above said, I give a positive evaluation of the materials of the candidate presented for participation in the competition for the academic position Associate Professor and I recommend to the honorable members of the Scientific Jury, determined by Order № RD – 359 from 25.10.2024 of the Rector of University “Prof. Dr. Assen Zlatarov” – Burgas, and subsequently to the honorable members of the Faculty Council of the Faculty for Technical Sciences at University “Prof. Dr. Assen Zlatarov” – Burgas, to vote for awarding the academic position **Associate Professor** in professional track **5.3. Communication and Computer Techniques**, scientific specialty “**Systems with Intelligent Behavior**” to **Sen. Assistant Prof. Todor Petkov, PhD.**

5 January 2025

Reviewer:
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