

OPINION

by Prof. Ivan Ganchev Ivanov, PhD

on a competition for acquiring the academic position of Associate Professor
for the needs of the IMI-BAS (Information Modelling Department),
announced in the Bulgarian State Gazette № 70/07.08.2020
in the area of higher education: *4. Natural Sciences, Mathematics and Informatics*
professional field: *4.6. Informatics and Computer Science*
scientific specialty: *Informatics (Information Modelling of Service Networks)*

By order № 190/06.10.2020 of the Director of the Institute of Mathematics and Informatics (IMI) of the Bulgarian Academy of Sciences (BAS), I have been appointed as a member of the Scientific Jury of the present competition for acquiring the academic position of Associate Professor.

The only candidate who has submitted documents for participation in this competition is **Head Assistant Velin Stoyanov Andonov, PhD**, from the Information Modelling Department of IMI-BAS.

The candidate graduated from the Sofia University “St. Kliment Ohridski” in 2008 with a Bachelor’s degree in Applied Mathematics. In 2010, he completed at the same university the Master’s degree program “Mathematical Modelling in Economics” with specialty “Applied Mathematics” and obtained the professional qualification “Mathematician” with an overall excellent grade on the semester exams (with an average score of 5.85 out of 6.00) and an excellent grade for successfully defending his Master thesis (with a score of 6.00). In 2015, the candidate obtained the educational and scientific degree “PhD in Informatics” at the Institute of Biophysics and Biomedical Engineering of BAS after successfully defending a PhD thesis entitled “Generalized Nets with Characteristics of the Places”. With this PhD thesis, **the candidate meets the minimum requirements of 50 points in the group of indicators ‘A’** for acquiring the academic position of Associate Professor at IMI-BAS.

Head Assistant Andonov, PhD, has (co)authored a total of 51 scientific works. Out of these, 11 are referenced in the Web of Science, forming him a Hirsch index of 1 ($H_i=1$), and 14 are referenced in Scopus with $H_i=2$. For the participation in this competition, the candidate has presented **23 scientific works**, namely:

- **8 journal papers** – 1 is published in a journal with impact factor (Q4), 3 in a journal with impact rank (*Advanced Studies in Contemporary Mathematics*), 4 in a journal with no impact factor/rank (*Notes on Intuitionistic Fuzzy Sets*);
- **9 chapters** in Springer book series with impact rank – 4 in *Advances in Intelligent Systems and Computing*, 2 in *Studies in Computational Intelligence*, 1 in *Lecture Notes in Computer Science*, 1 in *Studies in Fuzziness and Soft Computing*, and 1 in *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*;
- **6 papers in conference proceedings.**

It must be noted that some of the impact rank (SJR) values presented by the candidate in the reference document Appendix 2.2, regarding the fulfillment of the minimum requirements for acquiring the academic position of Associate Professor at IMI-BAS, are not updated for 2019, i.e., they do not correspond to the publication year of those scientific works. Furthermore, in Appendix 2.2¹ and in the presented list of publications of the candidate, no weblinks to the respective reference databases are included, which otherwise would have been made their verification much easier to complete.

The **23 scientific works**, presented by the candidate for participation in this competition, can be grouped according to the instructions for points formation in Decree № 26/13.02.2019 about the modification and supplement of the Regulations for the Implementation of the Law on the Development of the Academic Staff in the Republic of Bulgaria (RILDASRB), as follows:

- **1 journal paper [5] with impact factor (IF)**, i.e., published in *Compt. Rend. Acad. Bulg. Sci.* (IF=0.270; Q4);
- **13 publications [1, 2, 4, 6, 8–10, 12, 14–17, 21] with impact rank (SJR)** but without IF. In the presented reference document Appendix 2.2¹, the candidate has mistakenly included in this group publications [19, 20], which were published in the Proceedings of the *2020 IEEE 10th International Conference on Intelligent Systems (IS 2020)* which, however, has no SJR (the last Proceedings with SJR of this conference series was the one published in 2016). Most probably, the candidate has mistaken it for the eponymous journal *IEEE Intelligent Systems* which indeed has not only SJR but IF as well! As a result, the number of points obtained by the candidate in the group of indicators ‘Γ’ must be reduced by 16 (i.e., as referenced in Scopus, [19, 20] bring a total of 24(=2x12) points,

¹ These spotted inaccuracies have been rectified in an updated version of Appendix 2.2 presented later by the candidate.

instead of 40(=2x20) points, since these do not have SJR). On the other hand, the candidate has missed to include in the reference document Appendix 2.2¹ his publication [8] in the group of indicators ‘Γ’, despite the fact that its scientific contributions are included in the candidate’s summary of the scientific contributions of the publications, presented for participation in this competition. As a result, the number of points for the group of indicators ‘Γ’ must be increased by 20 (as [8] is published in a journal with SJR but without IF);

- **4 publications** [13,18–20] **referenced in Scopus**;
- **1 publication** [22] **referenced in IEEE Xplore**;
- **2 publications** [3, 7] **referenced in Zentralblatt**;
- **2 publications** [11, 23] **not referenced** in any of the world renowned databases of scientific information, specified in the RILDASRB, i.e., Web of Science, Scopus, Zentralblatt, MathSciNet, ACM Digital Library, IEEE Xplore, and AIS eLibrary. These works, published in *Notes on Intuitionistic Fuzzy Sets* in 2019 and 2020, respectively, are mistakenly included by the candidate in Appendix 2.2¹ as referenced in Zentralblatt. However, according to the information available from this database (<https://zbmath.org/serials/?q=se%3A00002078>), this journal has not been indexed in Zentralblatt since 2017. As a result, the number of points obtained by the candidate must be reduced, respectively, by 12 points in the group of indicators ‘Γ’ (for the non-referenced publication [11]) and by 12 points in the group of indicators ‘B’ (for the non-referenced publication [23]).

Publications [4, 9, 10, 13, 14, 16, 18, 23] are presented by the candidate as a habilitation thesis. With these, as a result of the above-mentioned inaccuracies¹, the candidate obtains a subtotal of **124 points** (instead of 136 points) which, however, allows him to **meet the minimum requirements of 100 points in the group of indicators ‘B’** for acquiring the academic position of Associate Professor at IMI-BAS.

With the rest of the publications presented for participation in this competition, and by taking into account the above-mentioned inaccuracies¹, the candidate obtains a subtotal of **244 points** (instead of 252 points) which, however, allows him to **meet the minimum requirements of 220 points in the group of indicators ‘Γ’** for acquiring the academic position of Associate Professor at IMI-BAS.

All of the candidate's publications, presented for participation in the competition, are written in English. Except for [5], all other publications are co-authored. In 7 of these publications, the candidate is listed as a first author and in 1 as a corresponding author. In 5 of these publications, the total number of co-authors per publication is greater than or equal to 5.

The main contributions in the scientific works of Head Assistant Andonov, PhD, presented by him for participation in this competition, are related to the modeling of service systems and networks. These could be classified into the following main research directions:

- *Service systems*: Modelling methods for such systems are elaborated in [10, 16, 18, 22, 23];
- *Telecommunication systems with Quality of Service guarantees*: Analytical modelling of such systems is done in [4, 9, 13, 14, 18–21];
- *Generalized Nets (GNs)*: New extensions of GNs for modelling of service systems are defined in [5]. GN models are elaborated for: a service system with queuing in [11], a multicriteria decision-making procedure in [8], telemedicine services in [1, 2, 6], biological systems in [12, 15], and a biometric access control system in [17];
- *Intuitionistic fuzzy sets*: An auxiliary technique for InterCriteria analysis was elaborated [3] and concepts of intuitionistic fuzzy modes, medians, and mean values were developed [7].

Head Assistant Andonov, PhD, has presented a list of 55 citations (citing works), of which **28 citations** are selected for participation in this competition. It must be noted that the presented lists of citations and Appendix 2.2 include neither weblinks to the corresponding reference databases, nor any evident that would have facilitated the verification of these. The citations, presented by the candidate for participation in this competition, form a subtotal sum of **135 points**, instead of 147 points as incorrectly stated in Appendix 2.2. This, however, allows the candidate to **meet the minimum requirements of 70 points in the group of indicators 'A'** for acquiring the academic position of Associate Professor at IMI-BAS. The presented citations could be grouped as follows:

- **8 citations referenced in Web of Science** – with a subtotal of $(8 \times 6 =)$ **48 points**;
- **14 citations referenced in Scopus** – with a subtotal of $(14 \times 6 =)$ **84 points**;
- **1 citation referenced in Zentralblatt** – with a subtotal of $(1 \times 3 =)$ **3 points**;
- **5 citations not referenced** neither in Zentralblatt (as incorrectly stated in Appendix 2.2), nor in any other of the world renowned databases of scientific information that are specified in the RILDASRB – with a subtotal of **0 points**.

Among the 28 citations, presented by the candidate for participation in this competition, 15 are written by Bulgarian authors, 9 by Bulgarian authors in collaboration with foreign co-authors, and 4 by foreign authors. Only the latter, i.e. the citations of foreign authors, are published in journals with impact factor (resp. 2 in Q1, 1 in Q2, and 1 in Q4).

According to Appendix 2.2, the candidate has participated in 3 national projects. This brings him a subtotal of **30 points**, which allows the candidate to **meet the minimum requirements of 20 points in the group of indicators 'E'** for acquiring the academic position of Associate Professor at IMI-BAS.

Based on the presented documents, I do consider that the candidate in this competition, **Head Assistant Velin Stoyanov Andonov, PhD, meets the minimum required point criteria² in each group of indicators for acquiring the academic position of Associate Professor** (with a total sum of 583 points) and meets the minimum requirements for scientific activity of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the RILDASRB, the Regulations for the conditions and order for acquiring the scientific degrees and academic positions at BAS, and the Regulations for the conditions and order for acquiring the scientific degrees and academic positions at IMI-BAS – in the part regarding the academic position of Associate Professor.

In the future, I would recommend to the candidate to be more pedantic and more independent in his research, to enlarge the circle of his scientific interests and the number of collaborators, to improve his rating in the world renowned databases of scientific information, to advance the level of his scientific publications and to increase the number of their citations.

Overall, **I give my positive conclusion for the selection and appointment of Head Assistant Velin Stoyanov Andonov, PhD, to the academic position of Associate Professor as a result of the present competition.**

November 20, 2020

City of Plovdiv

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² In my personal view, **the minimum point criteria** in the groups of indicators for acquiring of scientific degrees and academic positions in the Republic of Bulgaria **are quite low** at the moment (**with regard to all degrees and positions**) and thus must be updated reasonably in near future. However, with his additional scientific publications, citations, participation in projects, etc., which are not presented for participation in the present competition, **the candidate would meet even higher criteria for acquiring the academic position of Associate Professor.**