REVIEW

For Assoc. Prof. **Gennady Pavlovich Agre, PhD**

Competition for the academic position "**professor**" in professional direction 4.6 "Informatics and Computer Science" specialty "Informatics (Artificial Intelligence)"

Reviewer: Acad. Ivan Petkov Popchev - BAS

Pursuant to Art. 4, par. 2 of Act of the Development of the Academic Personnel of the Republic of Bulgaria and decision of the Scientific Council of IICT - BAS (Protocol No. 7 of 10.07.2019) with Order No. 176, Sofia, 19.7.2019, the Director of the Institute of Information and Communication Technologies - Bulgarian Academy of Sciences prof. DSc. G. Angelova I have been appointed a member of the Scientific Jury in the competition for the academic position of "Professor" in the professional direction 4.6. Informatics and Computer Science, specialty "Informatics (Artificial Intelligence)", announced in State Gazette no. 41/21.05.2019 for the needs of the section " Linguistic modeling and knowledge processing ".

As a reviewer I received all 13 documents submitted for the competition.

According 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 (Decree No. 26 of February 13, 2019) and the Rules for Specific Requirements ... for academic positions at IICT, (SC Protocol No. 4/ 03.27.2019) candidates for professor must meet certain requirements.

Art. 29. (1) Applicants for the occupation of the academic position of "professor" shall 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) Applicants 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 on Specific Requirements ... for filling academic posts in ICTT:

Art. 3. In order to ensure a high scientific level of academic staff, the following minimum required points by groups of indicators are introduced in ICTI.

4.6. informatics and Computer science.

Group of indicators	Content	Professor
A	Indicator 1	50
B	Indicator 2	-
C	Indicators 3 or 4	100
D	Sum of indicators from 5 to 10	260
E	Sum of points in indicator 11	140
F	Sum of points in indicator 12 to the end	150

Assoc. Prof. D. Agre meets the requirements of Art. 29 (1).1 having submitted the Higher Attestation Commission Degree for Candidate of Science in Engineering No. 22420, Sofia, 04. 09.1992.

Assoc. Prof. D. Agre meets the requirements of Art. 29 (1). 2 according to the service note presented Ex. No. 616/04.07.2019, signed by Human Resources: R. Deleva and Director: prof. DSc D. Angelova stating that the total length of service 41 years, including as a Research Associate II-I degree, Associate Professor II degree and Associate Professor 33 years and 08 months.

Assoc. Prof. D. Agra meets the requirements of Art. 29 (1). 3 since he has submitted 29 publications in specialized scientific editions, which do not repeat the ones submitted for the acquisition of the educational and scientific degree "doctor" and for the occupation of the academic position "associate professor".

According to the **List of Scientific Publications**, since the beginning of 1997, Assos. Prof. G. Agre, PhD has **56 publications**, of which 29 are participating in the competition.

An analysis of these publications shows the following:
- 1 publication is in the journal IF - Q2 (No. 16);
- 20 publications are in journals or series with SJR (NO. 1, 2, 3, 8, 11, 13, 14, 15, 17, 18, 19, 21, 22, 23, 25, 26, 27, 28 and 29);
- 6 publications are in conference proceedings (NNo. 6, 7, 9, 10, 20, and 24);
- 2 publications are book chapters (NNo. 4 and 5);
- 3 publications are independent (NNo. 1, 5 and 13)

All publications are in English.

56 "Post-habilitation" publications (1997 - 2019) have been cited as **"Appendix 1"** and indexed at least in Google Scholar.

Presented **"List of citations in Scopus"** included five most cited articles indexed in Scopus **(315 citations)**. Participating in the competition Articles included: No. 15 with 24 citations and No. 16 with 269 citations.

Assoc. Prof. G. Agre **meets the requirements of:**
- **Art. 29 (1).4** having submitted other original research papers, publications, ... and other scientific and applied research - participation in 10 projects, of which in 4 is a scientific advisor;
- **Art. 29 (1). 5** as it meets the minimum national requirements under Art. 2 b, par. 2 and 3, respectively, of the requirements of art. 2 b, par. 5. The presented under art. 29

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(3)	reference (7 pages) for meeting the national minimum requirements shows 2957 points;

- **Art. 29 (1). 6** as there is no proven plagiarism in the scientific works according to the law.

According to Art. 29 (3) applicants submit a "**reference to the original scientific contributions**". Assoc. Prof. G. Agre. PhD presents "**Reference for Original Scientific and Applied Contributions**" in a volume of 4 pages.

In brief, **contributions** to submitted publications can be presented as follows:

1. The architecture of an integrated INFRAWEBS (under FP6 / 2002 / IST / 2) environment for semantic engineering of Internet services (NNo. 2, 4 and 5) has been developed. Implementation of NFRAWEBS - Designer (NNo. 1 and 3) as a graphically ontology-based integrated environment for designing WSMO - Semantic Internet Services (NNo. 4 and 5).

2. Creating a semantic technology-based environment for the development of technology-based training in the humanities in the field of FP7-REGPOT-2012-2013 Grant Agreement: 316087 AComIn (2012 - 2016) in collaboration with co-authors (D. Dicheva and Hr. Ditchv of Winston Salem State University (USA) established a system for assessing the degree of Gamification in education (No. 16).

3. A method for selecting features in a classification based on memorization is presented, an approach for solving the complete problem of word ambiguity and implementation of the WSD Studio software system (NNo. 28 and 29). Establishment of an Expert Advisory System for Healthy and Dietary Nutrition (NNo. 22 and 24)

As a summary " **scientometric image** " of Assoc. Prof. Gennady Agre, PhD, three extracts from the world's scientific bases can be made:

- **Scopus**: 45 documents, 393 citations, h-index 4;
- **Web of Science**: 31 total publications, 196 without self-citations, h-index 4;
- **Scholar. Google**: 1057 citations, h-index 11 , i10 - index 11.

With 669 citations is the publication: D. Dicheva, C. Dichev, G. Agre, G. Angelowa. Gamification in education. A systematic mapping studies. - Educational Technology and Society, 18 (3), 75-88.

Elements of the "**scientometric image** " may be subject to **self-examination** and research guidelines.

I have an immediate personal impression of the candidate in the competition since 1980, when he enrolled as an assistant at ITCR, I was a reviewer of the PhD dissertation and of number of his publications. Assoc. Prof. D. Agre proved to be a successful researcher, organizer of international and national projects, professor and head of the graduates of master's program "Artificial Intelligence", organizer of international conferences participant controls, in expert groups and editorial boards of magazines and series.

CONCLUSION

All requirements 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 Specific Requirements of ... for occupation of academic positions in IICT are fulfilled and I give a definitive **positive** conclusion for the selection of Assoc. Prof. Dr. Gennady Agre, PhD in the competition for the academic position of **"Professor"** professional direction 4.6 "Informatics and Computer Science" specialty Computer Science (Artificial Intelligence).

I propose to the Scientific Jury unanimously vote on a proposal to the Scientific Council of IICT - BAS to select Assoc. Prof. Gennady Agre, PhD for the academic position of "Professor" in the professional direction 4.6 "Informatics and Computer Science" specialty "Informatics (Artificial Intelligence) ".

19.09.2019

Reviewer:

Acad. Ivan P. Popchev

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