Opinion

**For the competition for occupation of the academic position „professor"
Higher education area 4. Natural sciences, mathematics and informatics, professional
field: 4.6 Informatics and Computer Science, specialty: Informatics (Artificial
Intelligence), declared in the State Gazette No 41/21.05.2019, for the needs of IICT_BAS,
department of Linguistic modelling and knowledge processing
candidate: Assoc. Prof. Dr. Gennady Pavlovich Agre**

**Member of the scientific Jury: Prof. Dr. Krassen Stefanov Stefanov,
Sofia University „St. Kl. Ohridski" - FMI**

I am presenting this opinion as a member of the Scientific Jury in the above mentioned competition, on the base of order No 176 from 19.07.2019 of the Director of IICT - BAS, as well as on the ground of Decision of the Scientific Jury (Protocol 1 from 29.07.2019). This opinion fully corresponds to the ZRASRB, Statute of MC for the application of ZRASRB, Statute for the development of the academic staff of BAS, and Statute of IICT-BAS.

1. General description of presented materials

I received the following documents as a member of the scientific jury: CV, copy of the PhD Diploma, certificate for the length of service, list with scientific publications for participation in the competition, list of all scientific publications for the period 1997 – 2019, list with citations, resumes of the publications – in Bulgarian and in English language, copies of the 29 publications presented for the participation in the competition, checklist for the fulfilment of the national minimal requirements to become professor, reference for the original scientific results and achievements, declaration for the absence of plagiarism, declaration for the participation in scientific projects.

The candidate fulfils all the requirements stated in the ZRASRB, Statute of its implementation, as well as statutes of BAS and IICT. In particular:

1. He achieved the PhD

2. He holds a position of Associate Professor for more than two years

3. He presented 29 scientific publications in specialized scientific issues, different from these for achieving PhD and Associate Professor rank, and valued with the needed points according to requirements and minimal national standards for becoming a professor.

The publications presented for the competition fully correspond to the thematic of the competition.

2. A general characteristics of the candidate's research, education and application activities

The whole number of the publications of Dr. Gennady Agre for the period after 1997 (when he became Assoc. Professor), indexed in Web of Science (WoS), Scopus and Google Scholar, is 56. From these publications he chose to present 29 for the official participation in the competition. One publication is in the magazine with Impact Factor (IF – in Q2) from WoS, 20 are in the magazines with SJR, 6 are in the proceedings of conferences indexed in Scopus/WoS, and two are book chapters from books, published from Academic Publishing companies.

Three of these publications are from candidate alone, 11 are with just one co-author, 7 are with exactly two co-authors, and the rest have two or more co-authors. In 7 publications

the candidate is the first author. The long history of successful participation in international research projects explains the big number of publications with more authors.

I can conclude that quantity and quality of presented scientific publications is more than enough to satisfy all of the stated requirements.

Gennady Agre has long and successful career as a university lecturer, mainly at MSc programs at FMI – SU. He has a lot of successfully defended master theses, including one of the international expert holding the John Atanasov national award. Gennady Agre was supervisor of three PhD students. He is also co-author of a book for students.

The candidate is presenting a list with Scopus citations of his 5 most cited publications, indexed in Scopus. These are 315 overall, which proves the high visibility of the candidate's scientific publications through scientific community.

Gennady Agre participated in several applied and fundamental research projects in his long career at ICCT-BAS. He described participation in 15 such projects (10 international and 5 national projects).

3. Analysis of the scientific and applied research results of the candidate

The main scientific results of Assoc. Prof. Dr. Gennady Agre in the publications, presented for the competition, can be divided into three general research domains:

Semantic Web Services (publications for the competition from 1 to 5)

Main results of the candidate are obtained as a result of his participation in the international research project from 6th Framework Program of the European Commission. I can enumerate the following original scientific achievements in this domain: development of the conceptual framework of integrated environment for semantic processing of various Web services; implementation of new approach for dynamic composition of semantic Web services; implementation of a user-friendly system for construction of descriptions of semantic services, based on ontologies.

Technology Enhanced Learning (publications from 6 to 18)
We can divide the main results achieved from Assoc. Prof. Gennady Agre into two research sub-domains: 1) using semantic technologies in combination with information technologies and Internet for the development of educational applications (publications 6-13), and (2) development of gamification applications for educational purposes (publications 14 – 18).
The most important specific results of Gennady Agre in this domain are: development of environment for implementation of educational applications in humanities, composed with repositories for pedagogical and domain knowledge, software instruments for knowledge processing and extended search engine for communication between different parts of the system. Especially popular is the publication, devoted to classification of gamification applications, with special participation of world leading expert prof. Darina Dicheva.

Machine learning and data mining (publications from 19 to 29)
The main focus of research of the candidate in this domain is related to application of various machine learning approaches for solving specific scientific problems like: method for feature selection for instance-classification methods; a new approach to the supervised word sense disambiguation, implemented in the form of software system called Word Sense Disambiguation Studio; an expert system for healthful and dietary nutrition, based on a customised metric for foods categorization.

4. Influence of the publications of the candidate to the research community

The overall number of the citations in Scopus of the 5 most cited research publications of Gennady Agre is 315, where the biggest contribution was achieved from the survey paper in the domain of gamification. It is obvious that this big number is more than enough and proves the high visibility of research results of Gennady Agre.

I can conclude that the number of citation of research publications selected for the participation in the competition satisfies all the requirements for the position of Professor, and even exceed them significantly.

5. Critical remarks and recommendations

I don't have any critical remarks.

I can recommend to the candidate to increase his efforts in teaching and working with students, and to take special attention to work with PhD candidates, in order to increase the successful ration of doctoral students.

6. Conclusion

On the ground of all above mentioned facts and conclusions, and taking into account the standards expressed in the laws and statutes, I give positive vote for all presented materials from Gennady Agre. As the candidate fully satisfy all requirements of ZRASRB and the rest of normative documents, standards and statutes enumerated above, and even exceed most of the quantitative indicators significantly, this gives me the conviction to state, that Assoc. Prof. Dr. Gennady Agre is fully suited to take the position Professor. So, I propose to the Honorable Members of the Scientific Jury to vote for the assignment of Gennady Agre to the academic position of Professor in the higher education area 4. Natural sciences, mathematics and informatics, professional field: 4.6 Informatics and Computer Science, specialty: Informatics (Artificial Intelligence).

Date: 26.09.2019   Member of scientific Jury:

/Prof. Dr. Krassen Stefanov/