

Review

in the competition for academic position

"Associate Professor"

in the professional field 4.6 "Informatics and and computer science"(Embedded autonomous systems)

for the needs of Sofia University "St. Kliment Ohridski"(SU)

Faculty of Mathematics and Informatics (FMI)

announced in State Gazette issue 74 of 21.08.2020 and on the Internet page of FMI

The opinion was prepared by: Prof. PhD Stefka Stoyanova Fidanova, IICT-BAS, professional field 4.6 "Informatics and and computer science", as a member of the Scientific Jury of the competition according to order № 38-497/ 19.10.2020 of the Rector of Sofia University.

One candidate has submitted documents for participation in the announced competition:

Assist. Prof. Ioanis Patias SU "St. Kliment Ohridski"

I. General description of the materials presented

1. Data of the candidature

The submitted documents from the applicant meet the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria (LDASRB) and The Rules on the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at Sofia University "St. Kliment Ohridski".

The candidate Ioanis Parmenion Patias has submitted a list of 11 titles for the competition. 8 publications in Bulgarian and foreign scientific publications and scientific forums, 0 studios, 0 monographs, 2 books, 0 certificates and patents, 0 textbooks and teaching aids. 14 other documents (in the form of job descriptions and certificates from an employer, project manager, project sponsor or sponsor, references and reviews, awards and other relevant evidence) supporting the applicant's achievements were also presented.

Notes and comment on the documents.

The lists of publications and citations in the competition are not well formed. There is no space between the individual publications and they are difficult to read. There is a lack of numbering, which makes it difficult to analyze the scientometric indicators. When a list of citations is given, the cited publication is written and after it all publications that cite it. This shows how many times the

publication has been cited and it is easier to analyze the citations. The candidate gives the cited publication, followed by one citation, then the same publication and the next citation. This makes it difficult to read and analyze citations.

2. Data of the candidate

He obtained a master's degree in computer science in 1993 from the Faculty of Computer Systems and Control at the Technical University, Sofia, Bulgaria. During the period 1994-2001 the candidate was a doctoral student at the Faculty of Computer Systems and Control at the Technical University, Sofia, Bulgaria. In 2001, Ioanis Patias obtained an educational and scientific degree "Doctor" on the basis of a defended dissertation on "Methods and tools based on descriptive logic for the presentation of knowledge in decision support systems." He was a lecturer at the Institute of Technology Education, Kozani, Greece; Technical University of Sofia; Institute of Technology, Serres, Greece; Institute of Technology, Thessaloniki, Greece. He works in various positions in several IT companies. Since 2014 he has been an Assistant, and since 2016 a Assistant Professor at the Faculty of Mathematics and Informatics at Sofia University.

3. General characteristics of the applicant's scientific work and achievements

For Group B requirements, Ioanis Patias submitted a monograph, published by Sofia University press after review. The total number of points is 100 for the required 100.

For Group Γ two monographs in Bulgarian are presented, published in the publishing house of Sofia University after review; one publication in a magazine with an impact factor in an issue in Q2; three publications in publications with the impact rank of Scopus; a publication that is referenced in AIS eLibrary; two chapters from books in Bulgarian. As well as a publication that is not referenced or indexed in any of the databases with scientific information specified in the regulations to the law. The total number of points is 258 for the required 200.

Ioannis Patias presented 11 citations from 4 of his publications. 6 of the citations are in editions visible in Scopus, one is visible in WoS and 4 are in editions that are not referenced or indexed in any of the databases with scientific information specified in the regulations to the law. The total number of points is 56 with a required 50 on indicator Д.

a) the scientific works comply with the minimum national requirements (under Art. 2b, para 2 and 3 of LDASRB) and respectively with the additional requirements of Sofia University "St. Kliment Ohridski "for the academic position of Associate Professor in the scientific field and professional direction of the competition;

- b) the scientific papers submitted by the applicant do not repeat those of previous procedures for the acquisition of a scientific title and occupation of an academic position;
- c) there is no proven plagiarism in the scientific works presented at the competition.

4. Characterization and evaluation of the applicant's teaching activity

From 2016 to the present, Ioanis Patias has been working as a Assistant Professor at the FMI at Sofia University. He also conducted laboratory classes at the Institute of Technology and Education, Thessaloniki, Greece in 2001-2003. He conducted laboratory exercises at the Technological Educational Institute of Western Macedonia, Greece in 1999-2001. In 2000-2001 he led exercises for part-time students at the Technical University, Sofia. Ioanis Patias was the supervisor of the diploma work of 7 graduates students.

5. Substantive analysis of the scientific and applied scientific achievements of the candidate contained in the materials for participation in the competition

The candidate has 6 main scientific and applied contributions.

1. Analysis of the requirements of a cloud federation

A description of existing digital technologies in engineering applications and construction is given. All these technologies create a huge profit potential for the construction sector. It is concluded that in this area cloud computing offers a new type of services and business models. The results are published in one article.

2. A comparison of two architectures is made in decisions for compliance and patient engagement.

An architectural style based on state performance transfer is embedded in a three-tier architecture, then compared to a federation in a cloud where the interaction passes through an intermediate layer. The intermediate layer coordinates the interaction between the provider and the cloud users. The results are published in two publications.

3. Methods for processing large data sets are proposed

Methods for processing large data sets are proposed. Tests have been performed with data from the healthcare sector. The method can be used to create new operational and business models. The results are published in 4 publications.

4. Approaches have been developed for evaluating robot taxation methods

Tools for analysis and decision-making for the introduction of taxation of robots in the production environment are presented. Included are the advantages and disadvantages of introducing robots in the place of humans, as well as the pros and cons of this type of taxation. The results are published in 3 publications.

5. Web-based application for developing a template for patient care

The application allows doctors to develop an individual template for care and therapy for a particular patient. The pattern can be tailored to the individual needs of the patient. The purpose of the mobile application is to inform the patient in time about the next steps in his treatment, as well as to monitor his condition by a doctor. The results are published in 4 publications.

6. Web-based application for automated localization of vehicles and giving priority to public transport

A Web-based application for locating vehicles and a system for giving priority to public transport has been developed. Two solutions are presented, which consist of a subsystem for recognizing cars of public transport (buses) and a component placed on the traffic lights. Cases of an isolated system and an additional control center and a case of an integrated system are considered. An architectural solution of an integrated GPS system for managing the advantage of public transport is proposed. The aim is to reduce the waiting time for traffic lights. The results are published in 5 publications.

Most of the candidate's publications are co-authored. Two independent publications are presented, with the exception of two publications in the others, the candidate is the first co-author. This gives me reason to believe that the contribution of Ioanis Patias is significant.

6. Critical notes and recommendations

I have no remarks on the scientific works of the candidate. All of them were published after positive review by experts in the field. I recommend the candidate to focus more efforts on publishing in publications with an impact factor. I have some criticism in shaping the contributions. Some of them are given quite vaguely. I guess the problem comes from the fact that Bulgarian is not the candidate's native language.

7. Personal impressions of the applicant

I do not know the candidate and I have no personal impressions of him.

8. Conclusion on the application

After learning about the materials and scientific works presented in the competition, and on the basis of the analysis of their importance and the scientific and applied contributions contained therein, I confirm that the scientific achievements meet the requirements of LDASRB. The Regulations for its implementation and the corresponding Regulations of Sofia University "St. Kliment Ohridski" for the position of the candidate in the academic position of Assoc. Professor in the scientific field and professional direction of the competition. In particular, the applicant meets the minimum national requirements in the professional field and no plagiarism has been detected in the scientific papers submitted at the competition.

I give my **positive** opinion to the application.

II. Overall Conclusion

On the basis of the above, I recommend that the scientific jury propose to the competent body of choice of the Faculty of Mathematics and Informatics at Sofia University "St. Kliment Ohridski" to choose Ioanis Parmenion Patias to take the academic position of Associate Professor in the professional field 4.6 "Informatics and computer science"(Embedded autonomous systems)

11.11.2020

Written by:

(Prof. Stefka Fidanova)