SHORT REPORT
on a competition for occupation of the academic position "Associate Professor"
in professional field 4.6 Informatics and Computer Science
(Embedded and Autonomous Systems),
announced in State Gazette No. 74 of August 21, 2020
by Sofia University St. Kliment Ohridski (SU),
Faculty of Mathematics and Informatics (FMI)

This short review is prepared by Prof. Dr. Maria Nisheva-Pavlova from Sofia University St. Kliment Ohridski, FMI, as a member of the scientific jury for the competition according to Order No. РД 38-497/19.10.2020 of the Rector of SU.

One applicant has submitted documents for participation in the announced competition: Dr. Ioannis Parmenion Patias, Senior Assistant Professor at FMI, SU.

1. General description of the materials presented

The documents of the applicant comply with the requirements of the Act of the Development of the Academic Personnel of the Republic of Bulgaria (ADAPRB), the Rules for the Implementation of the Act of the Development of the Academic Personnel of the Republic of Bulgaria (RIADAPRB) and the Rules on the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at SU (RTCAADOAPSU).

The applicant has submitted for the competition:

- Professional autobiography,
- Copy of diploma for higher education,
- Copy of diploma for educational and scientific degree "Doctor",
- Copy of certificate for occupation of the academic position "Senior Assistant Professor",
- Certificates of internship in the speciality,
- Documents proving the fulfillment of the requirements of Art. 115, para. 1, item 2 of RTCAADOAPSU,
- Lists of publications (list of all publications and list of publications presented at the competition),
- List of publications, presentations, projects and supervision activities, generated by the information system of SU,
- Reference for the fulfillment of the minimum national requirements and the requirements of SU for the professional field 4.6 Informatics and Computer Science,
- List of citations of publications of the applicant in articles of other authors,
- Reference for original scientific contributions,
- Reference for the degree of fulfillment of the indicators under Art. 122, para. 2 of RTCAADOAPSU,

- Copies of publications presented at the competition,
- Abstracts of the publications presented at the competition (in Bulgarian and in English),
- Copy of the competition announcement in the State Gazette.

The documents of the applicant have been prepared in full compliance with the requirements of RTCAADOAPSU.

2. Details of the applicant

The applicant Dr. Ioannis Patias has a technical degree, completed in 1993 at the Technical University – Sofia. In 2001 he received a doctoral degree. He has also obtained a master's degree in business administration and numerous professional certificates. He has worked consecutively as an IT consultant, head of a computer center, senior IT consultant, international expert, senior business development manager. He was the executive director of companies with successful activity in the field of telecommunication and information services. He has worked as a part-time lecturer in technical universities in Greece and Bulgaria. During the period 2014 – 2016 he was a part-time lecturer at FMI, and since 2016 after winning a competition he has held the academic position of "Senior Assistant Professor" in the Department of Computer Informatics at FMI.

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

The research activities of Assoc. Dr. Ioannis Patias and the topics of his scientific works are entirely in the field of competition. He participates in the competition with 11 publications that do not repeat those of the previous procedure for the acquisition of his doctoral degree.

The monograph, presented as a habilitation thesis, and one of the scientific papers submitted for participation in the competition are single-authored and the remaining works are co-authored. For the collective publications in which the personal contribution of the individual co-authors is not explicitly indicated, I accept that all co-authors have an equal contribution.

There is no proven plagiarism in the scientific works of Dr. Ioannis Patias.

In accordance with the requirements under Art. 1a, para. 1 of the RIADAPRB, the candidates for an the academic position of "Associate Professor" in professional field 4.6 Informatics and Computer Science must have: 50 points in group of indicators "A", at least 100 points in group of indicators "Б", at least 200 points in group of indicators "Г", at least 50 points in group of indicators "Д".

RTCAADOAPSU does not define higher additional requirements than those specified in the RIADAPRB.

According to the submitted documents the applicant covers:
- 50 points in group of indicators "A",
- 100 points in group of indicators "Б",

- 276 points in group of indicators "Г",
- 88 points in group of indicators "Д".

Therefore, the minimum national requirements and the additional requirements under Art. 1a, para. 2 and para. 3 of the RIADAPRB for occupation of the academic position of "Associate Professor" in the professional field 4.6 Informatics and Computer Science have been completely covered Dr. Ioannis Patias.

4. **General characteristics of the applicant's teaching activities**

The teaching activities of Dr. Ioannis Patias are considerable in scope and diverse in content. He takes part in teaching the compulsory courses in Artificial Intelligence for BSc students in Informatics, Knowledge Based Systems and E-business Systems for BSc students in Information Systems, and Data Bases for BSc students in Software Engineering at FMI. He teaches the courses in Design of Robotics Systems and Project Risk Management for different Master's programs at FMI.

Dr. Patias has lectured in English for foreign students at FMI. He has supervised seven successfully defended MSc theses. He works actively with his students, skillfully combining his deep theoretical knowledge with the accumulated practical experience.

5. **Substantive analysis of the scientific and applied scientific achievements of the applicant, presented in the materials for participation in the competition**

The scientific papers, presented by Dr. Ioannis Patias for participation in the competition, contain original research results, which can be grouped and summarized as follows:

- Group 1: *Cloud-oriented software architectures*. A solution for cloud-oriented software architecture has been proposed and analyzed, providing opportunities for creating different types of web applications and mobile applications for the purposes of mobile telemedicine.

- Group 2: *Intelligent public transport management systems*. The problems related to the provision of conditions for compliance with the time schedule of buses from the public transport system in big cities are analyzed. Two suitable architectural solutions for respective software systems have been proposed, based on the detection and management of the priority of the buses from the public transport system.

- Group 3: *Cloud environments and big data for mobile telemedicine information systems*. The main processes have been examined and specific design solutions have been proposed in connection with the use of big data for the purpose of increasing the efficiency of business models in the field of e-healthcare. Two models of software architectures are proposed, aimed at ensuring interoperability of mobile telemedicine information systems.

The significance of the applicant's research results is evidenced by their reflection in the works of other authors. Dr. Ioannis Patias submitted data for a total of 11 citations of

publications, with which he participates in the competition, in articles of other authors that were referenced and indexed in Scopus.

6. Critical notes and recommendations

I have no significant critical comments on the scientific papers of Dr. Ioannis Patias presented for participation in the competition. Some of the other materials of the candidate are not prepared precisely enough and are structured in an inappropriate way. The candidate's contributions in the works submitted for participation in the competition are formulated at a poorly chosen level of abstraction.

7. Personal impressions of the applicant

I have personal impressions from some of the teaching and project activities of the candidate in the last four years. I highly appreciate his professionalism, his efficiency in the work, his collegiality and his ability to create a good working atmosphere around him.

8. Conclusion on the application

Having become acquainted with the materials and scientific works presented in the competition and on the basis of the analysis of their significance and the scientific and applied scientific contributions contained therein, I **confirm** that the academic achievements of the candidate Dr. Ioannis Patias meet the requirements of the ADAPRB, the Regulations for its implementation and the corresponding Regulations of SU for the occupation of the academic position of "Associate Professor" in the professional field "Informatics and Computer Science". In particular, the applicant meets the minimum national requirements in the professional field and no plagiarism has been detected in his scientific papers submitted at the competition.

I give a **positive assessment** of the application of Dr. Ioannis Patias.

GENERAL CONCLUSION

Based on the above, **I recommend the scientific jury to vote on a proposal to the Council of the Faculty of Mathematics and Informatics of Sofia University St. Kliment Ohridski to select Dr. Ioannis Parmenion Patias for the academic position of "Associate Professor" in the professional field 4.6 Informatics and Computer Science**.

December 12, 2020   Assessor: ....
                                                               (Prof. Dr. Maria Nisheva-Pavlova)