STATEMENT

on the competition for the academic position
"Associate Professor"
in professional field 4.5 Mathematics (Mathematical Logic),
at Sofia University "St. Kliment Ohridski" (SU),
Faculty of Mathematics and Informatics (FMI),
announced in State Gazette No.87/19.10.2021 and the internet sites of FMI and SU

This statement is written and submitted by Assoc. Prof. Trifon Anchev Trifonov — FMI, professional field 4.6. Informatics and Computer Science (Programming), appointed to the academic jury for this competition by the Rector of SU in accordance with Order РД 38–591/10.12.2021.

A **single candidate** has submitted an application for this competition:

- Assist. Prof. Ivan Dimitrov Georgiev, PhD, University "Prof. Dr. Asen Zlatarov"

I. General Description of the Submitted Documents:

1. Application Details

The documents submitted by the candidate are in full compliance with the requirements of the Academic Staff Development Act (ZRASRB), the Regulations Act for the Implementation of ZRASRB (PPZRASRB), and the Regulations Act about the Terms and Conditions for Acquisition of Academic Degrees and Occupation of Academic Positions at SU (PURPNSZADSU).

For the purposes of the competition Assist. Prof. Ivan Dimitrov Georgiev, PhD has presented a total of 8 titles, including 8 publications in domestic and international scientific issues and conferences.

The candidate has submitted one additional document supporting the professional achievements.

The additional document is a certificate for the award "Prof. Ivan Soskov" dated 2014.

The submitted documents are well-structured, which aids their review and evaluation.

2. Short Biographical Data

Assist. Prof. Ivan Dimitrov Georgiev, PhD, successfully completed at FMI his Bachelor's degree in Informatics in 2007 and his Master's degree in Mathematics in the Master's programme "Logic and algorithms" in 2009. After his graduation he began his academic career as an Assistant Professor at the chair of Mathematics and Physics at University "Prof. Dr. Asen Zlatarov" in Burgas, where he worked for 12 years, 5 of which as a Chief Assistant Professor. In parallel, he completed his PhD studies in Mathematical Logic at FMI, successfully obtaining his PhD degree in 2016. During this time he taught at FMI for two semesters as a part-time lecturer.

He has experience authoring problems for the Autumn Informatics Tournament in Shumen in 2008. In 2014 he received the award "Prof. Ivan Soskov" for research and scientific achievements in the area of Computer Science, Mathematical Logic, and Computability.

Ivan Georgiev participated in six scientific projects, two of which were collaborations with foreign universities. He has presented his results on various scientific forums in a total of 20 talks, 11 of which abroad, 2 of them invited.

3. **General Evaluation of Scientific Work and Professional Achievements**

   The research efforts of Assist. Prof. Ivan Dimitrov Georgiev, PhD, are primarily in computable real analysis, although his research spans other areas as well. His first results date from 2011 and he continues to actively work in the area of computability theory with 14 of his 20 papers being on this subject. Four of his papers have a total of 12 citations.

   The major topics studied by the candidate are:

   - computability and representations of real functions;
   - computability and approximations of real numbers;
   - intuitionistic fuzzy quantifiers and operators.

   After a detailed review of the submitted scientific publications I confirm that:

   a) the sumitted publications are in full compliance with the minimal national requirements under Art. 2B (2) and (3) of ZRASRB, as well as with the additional requirements of SU for the academic position "Associate Professor" in the professional field of this competition;

   b) none of the submitted publications have been submitted in a preceding procedure for acquiring a scientific title or an academic position;

   c) there is no lawful evidence for plagiarism in the submitted publications.

4. **Description and Evaluation of Teaching Activities**

   Ivan Georgiev was a lecturer in a two-semester course in "Advanced Mathematics" in several Bachelor's programmes at university "Prof. Dr. Asen Zlatarov". Additionally, he has been teaching exercises in the courses "Computer Security" and "Computer Architectures", which involve not only theoretical aspects, but also programming practice. He also has experience at FMI, where he lectured for two consecutive years the course "Computability in Analysis" for bachelor and master students. His average annual teaching hours exceed the minimum requirements at Sofia University by an impressive factor of approximately 1.6. Ivan Georgiev adapted successfully to the challenges of online teaching by employing modern videoconferencing platforms with whiteboard capabilities. I applaud his initiative to publish recordings of his lectures are additional course materials for his students. There is no information about any students supervised by the candidate.

5. **Analysis of the Content of the Theoretical and Applied Contributions Described in the Submitted Publications**

   For the purposes of the competition a total of 8 papers have been presented, as follows:

   - 4 in prestigious journals with Impact Factor [1,2,3,5];
   - 3 in conference proceedings with SJR [4,6,7];
   - 1 in the Annals of FMI, indexed in Zentralblatt [8].

   It is important to note that the papers are published in a variety of journals and conference proceedings with only two of them published in the same journal (Annals of Pure and Applied Logic). The candidate is the sole author in four of the papers [2,3,5,8], the remaining four papers being coauthored with Bulgarian and foreign researchers. All publications are referenced correctly and include a hyperlink to their indexed electronic versions.

Proof is provided of 7 citations in collections indexed by Scopus, in compliance with the minimal national requirements. 5 of the citations are of two of the presented papers [2,7].

As required, the candidate has included summaries of the publications submitted for the procedure and has accurately detailed his own scientific contribution. Impressively, Ivan Georgiev has also enclosed declarations signed by his coauthors acknowledging that the description of his scientific contributions is indeed valid. This is a highly commendable practice, though not one often followed by applicants for academic positions and scientific degrees.

The scientific contributions of the candidate could be summarized as follows:

- analysis of properties of representations and approximations of computable irrational numbers [1,4];
- analysis of properties and characterization of computable real functions [2,3,5,8];
- introduction of formal clarifications of the definitions of multidimensional quantifiers over intuitionistic fuzzy formulas [6,7].

6. Critical Remarks and Recommendations

My only remark concerning the presented documents is that the list of citations was limited to the ones provided for the purposes of the competition, instead of a complete one, but upon request from the jury the candidate promptly provided a comprehensive list of all his citations.

My recommendation to Ivan Georgiev is to continue his active participation on scientific conferences and seminars, as well as to engage in active collaboration with students and young researchers.

I believe it would be very for valuable if he could apply at FMI his experience in teaching "Computer Security", a course that the students will undoubtedly find quite interesting. Additionally, the course "Computer Architectures" at the faculty regularly suffers from a shortage of teachers and would certainly benefit if Ivan Georgiev could contribute to it.

7. Personal Impressions

I know the candidate indirectly, having attended some of his talks at seminars of the Mathematical Logic group at FMI. My impression, albeit cursory, is that Ivan Georgiev is a diligent and precise lecturer, paying attention to detail and the presentation of the topic at hand. After reviewing several of the provided recordings of his lectures, I am convinced in his ability to lecture in an accessible, fluent, and natural manner, aided by suitable demonstrative examples. Based on the above, I believe that he will quickly establish himself as a capable lecturer and respected colleague at FMI.

8. Conclusion

Based on the review of the documents and scientific publications submitted for this competition, as well as on the analysis of their significance and the theoretical and applied contributions, I hereby confirm that the scientific achievements of the candidate meet and exceed the requirements of ZRASRB, PPZRASRB, and PURPNSZADSU for acquiring the academic position "Associate Professor" in the scientific and professional field of this competition. More specifically, the candidate satisfies the minimal national requirements of the professional field and no plagiarism has been detected in the submitted scientific publications submitted.

I hereby state my **positive** assessment of the application of Assist. Prof. Ivan Dimitrov Georgiev, PhD.

II. GENERAL CONCLUSION

Based on the above, I hereby **recommend** to the scientific jury to propose to the competent authority of the Faculty of Mathematics and Informatics at Sofia University "St. Kliment Ohridski" to elect Assist. Prof. Ivan Dimitrov Georgiev, PhD to the academic position "Associate Professor" in professional field 4.5 Mathematics (Mathematical Logic).

February 6, 2022   Prepared by: _____
                                   Assoc. Prof. Trifon Anchev Trifonov — FMI