STATEMENT

Competition for an academic position
"associate professor"
in Subject classification 4.5. Mathematics (Mathematical modelling and application of mathematics in mechanics and robotics)
for the needs of Sofia University "St. Kliment Ohridski" (SU),
Faculty of Mathematics and Informatics (FMI),
announced in SG no. 24 of 17.03.2023 and on the FMI and SU websites

Author: **Assoc. Prof. Dr. Georgi Petrov Boyadzhiev**, with affiliation Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, given as a member of the scientific jury for the competition for academic position "Assoc. Prof", Subject classification 4.5. Mathematics (Differential equations), announced in State Gazette, no. 24 of 17.03.2023 , according to Order No. RD 38-245/12.05.2023. of the Rector of Sofia University.

Two candidates have submitted documents for participation in the announced competition:
1. Senior assistant Prof. Dr. **Georgi Ivanov Georgiev**, with affiliation Sofia University "St. Kliment Ohridski"
2. Senior assistant Prof. Dr. **Svetlin Georgiev Georgiev**, with affiliation Sofia University "St. Kliment Ohridski"

I. General description of the presented materials

1. Application details

The documents submitted by the candidates for the competition correspond to the legal requirements in Bulgaria and the Regulations for the terms and conditions for acquiring scientific degrees and occupying academic positions at SU "St. Kliment Ohridski".

1.1 Applying for the competition, the candidate Senior Assistant Professor Georgi Ivanov Georgiev presented a list of 8 titles in Bulgarian or foreign scientific journals and scientific forums. Two of the presented papers are published in journals with rank Q1, one in journal with rank Q2, one in journal with rank Q3 and one in journal with rank Q4. The rest are published in journals with SJR ranking. 9 quotations are presented. Three other documents (in the form of official notes and certificates from an employer) supporting the applicant's achievements are also given.

Notes and comments on the documents: The set of documents contains all those required by the national legislation of the Republic of Bulgaria.

1.2 Applying for the competition, the candidate Senior Assistant Professor Svetlin Georgiev Georgiev presented a list of 10 titles in total including one in foreign scientific journal and scientific forums and 9 monographs. 9 quotations are presented. Two other documents (in the form of official notes and certificates from an employer) supporting the applicant's achievements are also given.

Notes and comments on the documents: The set of documents contains almost all those required by the national legislation of the Republic of Bulgaria. Only the full texts of 8 of the titles proposed for participation in the contest are missing, and full texts are available for the titles under indicator B - one article and one book. The reference to original scientific contributions also lacks a description of the scientific contributions of the titles provided. A description of the original scientific contributions is missing in the abstracts of the scientific works, as well as in the reference for the original scientific contributions.

2. Applicant data

2.1 Senior Assistant Professor Georgi Ivanov Georgiev was born in 1967. He obtained his scientific and educational degree "doctor" (Ph.D) in 1997 as a full-time doctoral student at the department "Differential Equations" of FMI, SU. The publication that was used to obtain PhD is not included in the titles submitted for this competition. Author of 14 scientific publications, 2 of them are in a scientific journal from Q1, 1 each in a scientific journal from Q2, Q3 and Q4, and 3 are with SJR. From 1997 to 2017, he was an assistant in mathematical analysis at VTU "T. Kableshkov" - Sofia. Currently he is a Senior Assistant Professor the department "Differential Equations" of the FMI, SU.

2.2 Senior Assistant Professor Dr. Svetlin Georgiev Georgiev was born in 1974 in Ruse. Married, with five children. He received his scientific and educational degree "doctor" (Ph.D) in 2002. The publication that was used to obtain PhD is not included in the titles submitted for this competition.. Author of 15 scientific monographs and 49 scientific articles. Currently, the Senior assistant t in the department "Differential Equations" of the FMI, SU.

3. General characteristics of the candidate's scientific works and achievements

3.1 The main topic of the articles that Dr. Georgi Ivanov Georgiev presents for the competition is the problem of integrability or non-integrability of systems of ordinary differential equations arising in physics. Such are the problems for trapped ions, for geodesic motion near a system of two or more compact objects, described by the model of Chazy-Curzon, etc. In the most recent work by publication date, the problem of existence of solutions of nonlinear partial differential equations is studied. Three of the presented articles are co-authored and five are independent research. The scientific articles submitted for participation in the competition are comprehensibly written, show the author's in-depth knowledge of the considered problems in the field of integrability of differential

equations, and last but not least - the author's scientific contribution in the relevant field is visible. Therefore,

a) the scientific works presented by Dr. Georgi Ivanov Georgiev fully meet the minimum national requirements (according to Art. 2b, paras. 2 and 3 of ZRASRB) and, accordingly, the additional requirements of SU "St. Kliment Ohridski" to occupy the academic position of "associate professor" in Subject classification 4.5. Mathematics (Differential equations);.

b) The scientific works presented by the candidate do not repeat those from previous procedures for acquiring a scientific title and academic position.

c) After a careful review of the scientific publications provided to the candidate and a thorough reference to the literature, no evidence of plagiarism was found in the scientific works submitted for the competition.

3.2 Senior assistant Dr. Svetlin Georgiev Georgiev participated in the competition with 1 publication in a foreign scientific publication and 9 monographs. Only two of the ten titles have the full text provided. The paper gives a generalization of Krasnoselski's fixed point theorems for the sum of two operators that may not be compact and continuous. The paper is written at a very good scientific level, with a clear emphasis on the new elements in the article, which also has very good scientometric indicators. In the monograph presented by point B, integral equations are studied from the point of view of the unified approach for studying differential and integral equations, called "time scales calculus". The monograph is well written, with high scientific and educational value. Therefore,

a) due to the lack of the full texts of 8 of the monographs that the candidate presents for the competition, it cannot be determined whether the scientific works meet the minimum national requirements (according to Art. 2b, Para. 2 and 3 of the RSARB - LAW ON THE DEVELOPMENT OF THE ACADEMIC STAFF IN THE REPUBLIC OF BULGARIA) and, accordingly, the additional requirements of SU "St. Kliment Ohridski" for occupying the academic position of "associate professor" in the scientific field and professional direction of the competition. According to ZRARB, a monograph is a work that not only summarizes and/or repeats already existing results, but also makes a significant contribution with new ones. Since the texts are not available, it is not clear what their original contribution was;

b) The scientific works presented by the candidate do not repeat those from previous procedures for acquiring a scientific title and academic position.

c) After a careful review of the scientific publications provided to the candidate and a thorough reference to the literature, no evidence of plagiarism was found in the scientific works submitted for the competition.

4. **Characteristics and assessment of the candidate's teaching activity**

4.1 Dr. Georgi Ivanov Georgiev presented an officially issued certificate of teaching employment. It shows that with an average of 457.98 hours of employment for the period 2017-2022. exceeds the minimum norm of 360 hours.

4.2 Dr. Svetlin Georgiev Georgiev did not submit an officially issued certificate of teaching employment, from which it is evident that he covers the minimum norm of 360 hours.

5. Content analysis of the candidate's scientific and scientific-applied achievements contained in the materials for participation in the competition

5.1 Dr. Georgi Ivanov Georgiev: The presented articles have excellent scientometric indicators - 2 articles Q1, one Q2, one Q3, one in Q4, and the rest with SJR. The publications are of a high level and represent a significant contribution to ODE theory and integrable systems.

5.2 Dr. Svetlin Georgiev Georgiev: The available texts are written at a high scientific level. For the presented article, the candidate used the SJR quartile instead of the WoS, which is contrary to the statements in ZRARB. The article is one of good quality and contains original contributions. Apart from the competition materials, Dr. Svetlin Georgiev Georgiev has a good publication activity - 49 scientific articles and 15 monographs, some of them with good scientific results and scientometric data.

6. Critical notes and recommendations

6.1 Dr. Georgi Ivanov Georgiev: I have no critical comments on the reviewed works regarding: staging; analyzes and summaries; methodological level; accuracy and completeness of results; literary awareness.

6.2 Dr. Svetlin Georgiev Georgiev:

- Considering the good publication activity of the candidate, I would recommend him in future competitions to use a carefully prepared set of scientific articles and monographs.

- I would recommend the applicant to prepare the documentation more carefully, paying attention to the completeness of the applications - full text of the articles, etc.

7. Personal opinion to the candidate

I have no personal impressions of the candidates. My opinion is formed only by the documents provided for the competition.

8. Application conclusion

8.1 After I got acquainted with the presented by Dr. Georgi Ivanov Georgiev materials and scientific works and based on the analysis of their significance and the scientific and scientific-applied contributions contained in them, I confirm that the scientific achievements meet the requirements of ZRASRB, the Regulations for its application and the relevant Regulations of SU "St. Kliment Ohridski" for the candidate to occupy the academic position of "associate professor" in the

scientific field and professional direction of the competition. In particular, the candidate satisfies the minimum national requirements and no plagiarism has been found in the scientific works submitted for the competition.

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

8.2 After I got acquainted with the presented by Dr. Svetlin Georgiev Georgiev materials and scientific works and based on the analysis of their significance and the scientific and scientific-applied contributions contained in them, I do not confirm that the scientific achievements meet the requirements of ZRASRB, the Regulations for its application and the relevant Regulations of SU "St. Kliment Ohridski" for the candidate to occupy the academic position of "associate professor" in the scientific field and professional direction of the competition. In particular, it cannot be unequivocally verified whether the candidate meets the minimum national requirements in the professional field. No plagiarism was found in the scientific works submitted for the competition.

I give my **negative** assessment to the application.

II. GENERAL CONCLUSION

Based on the above, I recommend the scientific jury to propose to the competent authority for the selection of the Faculty of Mathematics and Informatics at SU "St. Kliment Ohridski" **to elect** senior assistant professor Dr. Georgi Ivanov Georgiev to take the academic position of "associate professor" in Subject classification 4.5. Mathematics (Differential equations)

11.07.2023   Author: ....
                                                      (**assoc. prof. Georgi Boyadzhiev**)