

# OPINION

about the occupation of an academic position "Associate Professor" in a scientific field 4.5. Mathematics (Differential Equations), announced in State Gazette No. 24 of 17.03.2023

*Candidates: Senior assistant professor Georgi Ivanov Georgiev, Ph. D., and Senior assistant professor Svetlin Georgiev Georgiev, Ph. D.*

The opinion was prepared by: Prof. Nikolay K. Vitanov, Ph. D., D. Sc., Institute of Mechanics - BAS, member of the scientific jury

Basis for preparation of the opinion: Order No. RD-38-245/12.05.2023 of the Rector of SU "St. Kliment Ohridski" for the appointment of the Scientific jury and Minutes of the first meeting of the Scientific jury dated 22.05.2023

Below the term Senior assistant professor will be written briefly as Senior assistant

## **1. Eligibility of applications**

The candidates were admitted to participate in the competition on the basis of the protocol dated 18.05.2023 of the Commission for admission to participation in the competition for Associate professor, appointed by Order No. RD-38-245/12.05.2023. After I got acquainted with the materials provided, I accept that the candidates fulfill the minimum national requirements for participation in the competition for the academic position of "Associate professor".

## **2. General characteristics of the scientific research, scientific-applied and pedagogical activities of the candidates**

### **Senior assistant Georgi Georgiev**

Senior assistant Georgi Georgiev holds the position of Senior assistant in the Department of Differential Equations at SU "St. Kliment Ohridski". He has a Ph. D. in the field of non-linear differential equations. His M. Sc. degree is in the field of

differential equations. He graduated from the mathematics high school in Veliko Tarnovo.

Senior assistant Georgi Georgiev has 6 years of teaching experience in the "Differential Equations" department of the SU "St. Kliment Ohridski", supplemented with sufficient teaching employment to achieve a very good level of teaching. The above qualification makes Senior assistant Georgi Georgiev suitable for participation in the current competition.

### **Senior assistant Svetlin Georgiev**

From the presented biography, information is obtained only about the Ph. D. thesis of the candidate, which is in the specialty "Differential Equations". From the presented diploma it can be seen that the Senior assistant Svetlin Georiev graduated from the Faculty of "Mathematics and Informatics" of the University of Veliko Tarnovo "St. St. Cyril and Methodius" majoring in "Mathematics and Informatics".

From the submitted documents, it can be seen that Senior assistant Svetlin Georgiev holds the position of chief assistant in the "Differential Equations" department of FMI of SU "St. Kliment Ohridski" for 12 years. From the attached list of teaching employment, it can be seen that the applicant has sufficient experience in teaching, on the basis of which it can be concluded that he can offer a good level of teaching.

On the basis of the defended dissertation for the educational and scientific degree "doctor" and on the basis of his teaching experience, I conclude that Senior assistant Svetlin Georgiev is suitable for participation in the current competition.

### **3. Quantitative characteristics of the research production of the candidates**

#### **Senior assistant Georgi Georgiev**

The general scientific output of Senior Assistant Georgi Georgiev consists of 14 publications, of which 10 are articles and 4 are in conference proceedings issued by AIP. Of these articles, chief assistant Georgi Georgiev participated in the competition with 5 articles and 3 publications in conference proceedings. I define the publication activity of chief assistant Georgi Georgiev as good, since some of his publications are

in journals that are well known and read by specialists in the field of differential equations.

### **Senior assistant Svetlin Georgiev**

Senior assistant Svetlin Georgiev presented a list with a total number of publications – 49, and most of these publications are in journals. The large number of monographs of this candidate is impressive, two of which are in the prestigious Springer publishing house. Although most of the candidate's monographs are of the textbook type, the significant number of published articles leads me to the conclusion that the publication activity of Senior assistant Svetlin Georgiev can be defined as very good, since some of his publications are in journals that are well known and read by specialists in the field of differential equations.

## **4. Analysis of the scientific achievements of the candidates**

### **Senior assistant Georgi Georgiev**

The scientific activity of Senior assistant Georgi Georgiev was greatly influenced by Painleve's work on the integrability of differential equations - an area of research that is still relevant today. The candidate has results in the field of integrability of Hamiltonian systems and has investigated the integrability of model systems for models from the fields of cosmology and atomic physics. I was very impressed by the candidate's last article in *Fractal and Fractional*.

Based on the acquaintance with the scientific activity of the Senior assistant Georgi Georgiev, I consider that it is sufficient to occupy the academic position of associate professor.

### **Senior assistant Svetlin Georgiev**

The candidate's publications are primarily in the field of the theory of differential equations. The most cited of the publications is the monograph on integral equations, which is also one of the publications with which the candidate participates in the competition. A closer look at the monographs of chief assistant Svetlin Georgiev shows that most of them are of the type of textbook for students. Therefore, in the analysis of his scientific achievements, I will mainly focus on only a few of the results related to journal publications. The Web of Science reference shows that the

candidate's most cited paper is the one with which he participated in the competition, and it is devoted to results of the type of Krasnoselski theorems for fixed points. The candidate has results in the field of existence of solutions of impulsive wave equations as well as results in the field of the Burgers equation, including the presence of fractional derivatives in this equation. Some of the candidate's publications are in first-rate journals.

On the basis of familiarization with the scientific activity of Senior assistant Svetlin Georgiev, I consider that it is sufficient for occupying the academic position of associate professor.

#### **5. To what extent the works presented and the contributions therein are the personal work of the candidates**

Senior assistant Georgi Georgiev

In most of his publications, Senior assistant Georgi Georgiev is a sole author. In the remaining publications, he has one co-author. Based on this, I conclude that Senior assistant Georgi Georgiev has enough contributions in his works and in the contributions presented to participate in the current competition.

**Senior assistant Svetlin Georgiev**

In most of the published books, chief assistant Svetlin Georgiev is an independent author. This leads me to conclude that the contributions in these books are largely the work of the candidate. Out of a total of 49 publications of the candidate, in 31 he is a sole author. This leads me to conclude that the contributions in the candidate's articles are largely his own doing.

#### **6. Personal impressions**

I do not know the candidates and have no personal impressions of them and their activities.

#### **7. Critical notes and recommendations**

### **Senior assistant Georgi Georgiev**

The publishing activity of Senior assistant Georgi Georgiev in recent years has been focused on magazines and conference proceedings that are read by the scientific community. My recommendation is that this publishing orientation continues.

### **Senior assistant Svetlin Georgiev**

I recommend the candidate to pay more attention to his CV. I recommend him to clear from it some dubious achievements such as TOP 100 SCIENTISTS and TOP 100 EDUCATORS. I don't know based on what criteria these awards are obtained, but the facts show that the candidate's independent citation count in Web of Science is below 60 at the moment, and American universities are full of professors who are masters in their fields, and each of which he has tens of thousands of citations and major contributions to the field of courses he teaches.

## **8. CONCLUSION**

In the above lines, I have briefly presented various aspects of the candidates' activities. Here I will compare these activities and give my recommendation on the outcome of the competition. I will make the evaluation according to the following point system. If in a given area one candidate has an advantage over the other, the candidate with the advantage will receive 2 points and the candidate without the advantage will receive 1 point. If there is no candidate with an advantage in the relevant area, then both candidates will receive 2 points each.

In the field of education and dissertations of the candidates, I think that the Senior assistant Georgi Georgiev is closer to the theme of the competition. Here he gets 2 points and Senior assistant Svetlin Georgien gets 1 point.

In the field of teaching activities, I believe that Senior assistant Svetlin Georgiev has an advantage due to his greater experience as a teacher in the faculty for whose needs the competition was announced. Thus, Senior assistant Svetlin Georgiev gets 2 points, and Senior assistant Georgi Georgiev gets 1 point.

In the field of scientific and applied activity, I do not think that any of the candidates has an advantage over the other. Here both candidates get 2 points.

In the field of pedagogical activity, I think that Senior assistant Svetlin Geortiev has an advantage because of his numerous books of an educational nature. Here he gets 2 points and Senior Assistant Georgi Georgiev gets 1 point.

Regarding the quantitative characteristics of scientific activity, I believe that senior assistant Svetlin Georgiev has an advantage due to the greater number of scientific publications. Here he gets 2 points, and Senior assistant Georgi Georgiev – 1 point.

Regarding the quality of the scientific production, I think that neither of the two candidates has an advantage, so both candidates receive 2 points each.

Regarding the personal contribution of the candidates in terms of the results in the scientific work, I think that neither candidate has an advantage and so both candidates get 2 points each.

The overall result of the assessment is as follows. Senior assistant Georgi Georgiev gets 11 points, and senior assistant Svetlin Georgiev gets 13 points. Thus, senior assistant Svetlin Georgiev has a slight advantage over Senior assistant Georgi Georgiev.

On the basis of the above, I recommend to the Scientific Jury to propose to the competent authority for the selection of the competition to choose Senior assistant Svetlin Georgiev to become an Associate professor in the competition for Associate professor in professional direction 4.5 Mathematics (Differential Equations), announced for the needs of the department "Differential Equations" of the Faculty of Mathematics and Informatics of SU "St. Kliment Ohridski" in the State Gazette, issue 24 of March 17, 2023.

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