

# O P I N I O N

by prof. Nikolay Ivanov Yankov, DSc

on the competition for acquiring the academic position „**professor**”

in professional field: 4. Natural sciences, mathematics and informatics,

professional area: **4.5. Mathematics** (Mathematical analysis)

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for Faculty of Mathematics and Informatics, Konstantin Preslavski University of Shumen,  
department „Mathematical analysis”,

with only candidate **assoc. prof. Sevdzhan Ahmedov Hakkaev, DSc**

## **1. General presentation of the received materials in accordance to art. 60 and 61(1) of RALDASRB**

By order No RD-16-091/11.09.2019 from the Shumen University Konstantin Preslavski's Rector, I'm appointed as a member of the scientific jury, and at its first meeting I have been voted as jury's Chairman. All materials for this competition I have received on electronic medium.

In accordance to art. 61, para. 1 of RALDASRB (Rules on the application of the Law for the development of the academic staff in the Republic of Bulgaria), the assessment of the applicant for the academic position "professor" is done by art. 61 and the results from the reference in accordance to art. 60, para. 3 from RALDSRB. In connection with the implementation of art. 61, on the basis of the documents submitted, it was established:

- a copy of diploma No 29537 issued on 16.02.2005 for the educational and scientific doctoral degree „PhD” (satisfying art. 60, para. 1, item 1);
- a copy of diploma No 24685 issued on 03.01.2008 for the academic position of „associate professor”, moreover a register entry in the Bulgarian registry of academic staff in the National centre for information and documentation (NACID) shows that the candidate has been hired as an „associate professor” with Rector's order RD-08-1120/09.07.2008 thus has at least two academic years of experience in an university (satisfying art. 60, para. 1, item 2);
- a copy of diploma No 34597 issued on 09.12.2010 for the scientific degree of „Doctor of Science” in scientific speciality „Mathematical analysis”;
- 3 publications in specialized scientific journals totaling 225 pts., πwhen 100 pts. accounts for a monograph. All these works were published after 2011, and the academic position „associate professor” was acquired by the candidate in 2008.

Therefore I can be sure that these scientific articles does not repeat works used for the candidate's doctoral thesis, in his „Doctor of Science” thesis as well as for acquiring the associate professor (satisfying art. 60, para. 1, item 3);

- a reference list for meeting the minimal national requirement in accordance art. 2b, para. 2 and 3 of LDASRB as well as a reference for the original scientific contributions that are backed by evidence (satisfying art. 60, para. 3);
- a reference list for the additional additional indicators applicable to the respective area (satisfying art. 61, para. 3);
- a declaration of authorship on the scientific works for this competition (satisfying art. 60, para. 3, item 6).

## 2. General characteristics of the applicant's scientific activity and contributions

For his participation in this competition assoc. prof. Hakkaev has presented 12 scientific papers and one textbook. The above publications do not repeat the ones submitted for the educational and scientific degree PhD and the scientific degree of Doctor of Science. All 11 publications are in scientific journals with impact-factor (JCR) and in quartiles: 7 in Q1, 4 in Q2 and 1 in Q3. The total impact-factor of these publications amount to 14.526 and the average IF is 1.21 which is very high figure for the field of mathematics.

I accept the candidate's list of points to the minimal national requirements:

- Group B: 3 scientific articles totaling of 225 pts. (the required minimum is 100 pts.);
- Group G: 585 points from 9 scientific articles (the required minimum is 200 pts.);
- Group D: 74 citations in WOS and Scopus totaling 576 pts. (the required minimum is 100 pts.);
- Group E: the scientific degree of „Doctor of Science”; principal investigator in a national scientific project; attracted funds for the project led by assoc. prof. Hakkaev; a textbook – a total of 128 (the required minimum is 100 pts.).

The major scientific contributions in the candidate's works are the study of:

- Spectral stability: for Boussinesq system [6]; of the periodic waves of the Klein-Gordon equation [8]; the existence and the stability of the periodic standing waves for a system of coupled nonlinear Schrödinger equations in [9]; of the Ostrovsky and short pulse models in a symmetric spatial interval, subject to periodic boundary conditions (in [11]).

- Orbital stability: for periodic standing waves for the Klein-Gordon-Zakharov system and the beam equation (in [4]); of the family of periodic traveling-wave solutions in [5];
- Linear stability analysis for periodic traveling waves of the Boussinesq equation and the Klein-Gordon-Zakharov system in [7];
- Existence and stability: of periodic travelling waves of the regularized short pulse and Ostrovsky equations in [10]; in [12] of stable Kerr frequency combs in the Lugiato-Lefever model of periodic optical waveguides.

I accept all of the scientific contribution proposed by the candidate.

### 3. Assessment of candidate's personal contributions

11 of the 12 journal articles in the candidate's list have a 3 authors and one has two authors. I consider the contribution of assoc. prof. Hakkaev in the articles as equal as all other authors. The textbook included in the publications list, titled „Lectures on ordinary differential equations” has as a co-author assoc. prof. Ognian Hristov. This textbook is published by the publishing house of the Konstantin Preslavski University of Shumen.

From the supplied curriculum vitae is evident that S. Hakkaev was a participant in 3 international and national projects. He had a post doctoral position in Sao Paulo University, Brazil and was a guest lecturer in the following universities: University of Kansas in USA; Zhejiang Normal University in China; Yeditepe University and Istanbul Aydin University in Turkey.

### 4. Critical notes and recommendations

I must mention that for me the two documents: the reference list for scientific contributions and the abstracts of publications for the competition are almost the same. It would be good if the first document focuses only on the scientific contributions themselves, for example textbooks should not be included. Also in the Bulgarian version of candidate's resumes there are some words not translated from English.

I recommend to assoc. prof. Hakkaev to increase his efforts with his doctoral students and in the future to achieve a successful doctoral thesis defence of some of them.

### 5. Conclusion

All mentioned above, and the fact that candidate satisfies all requirements of LDASRB, RALDASRB and Konstantin Preslavski University's rules, forms the basis for me to propose assoc. prof. Sevdzhan Ahmedov Hakkaev to be awarded the academic position „professor” in area: **4.5. Mathematics**, scientific speciality „Mathematical analysis”.

Shumen, 10.10.2019

Scientific jury member:

  
/prof. Nikolay Yankov, DSc/