



ATTITUDE

of the competition for the occupation of the academic position of "Associate Professor" in the field of higher education 4. Natural science, Mathematics and Informatics, professional specialty 4.6. Informatics and Computer Sciences (Numerical Methods, Mathematical Modeling and Intuitionistic Fuzzy Statistic) with single applicant, Senior Assistant Professor PhD Velichka Nikolova Traneva

Member of the scientific jury: Prof. DSc. Gani Trendafilov Stamov, University "Prof. Dr. As. Zlatarov" - Bourgas

1. General characteristics and biographical data

PhD Velichka Nikolova Traneva is the only applicant in the competition for the occupation of the position of Associate Professor in the field of higher education 4. Natural science, Mathematics and Informatics, professional specialty 4.6. Informatics and Computer Sciences (*Numerical Methods, Mathematical Modeling and Intuitionistic Fuzzy Statistic*) opened by the University "Prof. Dr. As. Zlatarov" - Bourgas, Faculty of Technical Science.

She graduated first and second master's degrees at the Sofia University "Sv. Kliment Ohridski" specialties "Professor of Mathematics and Informatics" and "mathematics" in 1995. Next in 2000 she graduated the master degree "Finances" at University of National and World Economy- Sofia.

Then, in 2017 PhD Velichka Traneva successfully defended her doctoral proposal at the Institute of Biophysics and Biomedical Engineering on the topic "Three-dimensional indexed matrices and applications in the transport task and OLAP-cube".

In the beginning of her carrier she is a lecturer in mathematics and informatics in various schools in Burgas, and since 2013 she has been an Assistant Professor and Senior Assistant Professor in the scientific field "Natural Sciences", "Informatics and Computer Science". She mainly lectures and/or exercises of students on "Mathematical Modeling and Optimization", "Quantitative Methods", "Informatics" and "Chemical-Technology Systems".

The applicant speaks and uses Russian and English at a certain level.

2. General description of the materials submitted

The candidate presents for review a basic list of a total of 16 scientific papers, of which 1 monograph, three chapters of monograph in co-authorship, 1 article with IF indexed in the Web of Science, 7 articles with SJR, 3 articles in the Scopus base, one textbook on quantitative methods and optimization and two teaching aids.

The presented set of materials from Dr. Velichka Nikolova Traneva, as well as the scientific data of the candidate for the position of Associate Professor, are in accordance with the Law on Development of Academic Staff in the Republic of Bulgaria and the Rules of Procedure for acquiring scientific degrees and holding academic positions at the University "Prof. Dr. Asen Zlatarov", Burgas.

3. General characteristics of the applicant's research and research activities

The main scientific works can be conditionally divided into three groups, namely, quantitative methods, mathematical modeling, intuition-fuzzy statistics, such as:

- quantitative methods presented by the individual monograph, the three chapters of the monograph in co-authorship, the IF article (number 3 in the list), the articles with impact rank (number 8 and 10 respectively), as well as one textbook (number 15 in the list). The method of intercritical analysis and the use of indexed matrices in various directions, training, transport tasks, etc., is mainly considered and applied;

- mathematical modeling. This assigns articles with an impact rank (with numbers 4,5,6 and 7) related to simulating a aggregated network model and using indexed matrices. In addition, two publications indexed at the Scopus base (with numbers 11 and 12) address the issue of finding a Hamilton cycle in an intotional fuzzy graph and intotional fuzzy algorithms in solving specific transport tas

- Intuitive fuzzy statistics are applied in articles number 9 and 13 (indexed in the Scopus base) and also in the learning aid with number 14 on the list. Article number 9 discusses the question of expanding single-factor dispersion analysis using the concepts of intuitive fuzzy statistics and indexed matrices. Here you can also count the training aid with the number 16.

All scientific developments presented are scientific and scientifically applied. Original scientific and applied results have been obtained, a significant part of which have been published in journals and scientific collections published by international academic publishing houses.

It is clear from the documents submitted that:

- with the monographic "Index matrices in the assessment of human resources", published in the publishing house of the Union of Scientists in Bulgaria, the candidate receives the required 100 points under Indicator B3.

- according to group of indicators D, 12 scientific works of B. Traneva - 1 under Indicator G6 and 11 under Indicator G7 are presented, with which it receives 344 points at a minimum required under the University's Regulations of 300 points.

- 14 citations were noted in Scopus and 1 citation in Zentralblatt excluded self-citations of a total of 6 publications of C. Traneva, thus having 116 points under Group of Indicators E with a minimum requirement of the University's Regulations of 100 points.

- Dr. Traneva has 120 points under Group of Indicators E with minimum requirement of the University's Rules of 100 points

The total number of points achieved by Dr. Traneva is 730, subject to a requirement of 650 points under the University's Regulations.

I'll note that The New Year's 2016 Ace. Velichka Traneva, MD, has been and she is a member of the team of:

- 5 scientific projects at the Research Sector at the University of Prof. Dr.Sc.(Econ.) Dr. Asen Zlatarov", on two of them "Modern methods of optimization and management of the business" and "Indexed matrices as a tool for learning" was a leader.

- 3 national projects, two of which at the Institute of Biophysics and Biomedical Engineering together with the Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences and one at the State Agency for National Security and Science.

4. Assessment of the applicant's pedagogical training and activities

The length of service of The Head of The Dr. B Traneva at the University began in October 2013, during this period:

- read lectures and leads exercises on "Quantitative methods in management", "Mathematical modeling and optimization", "Methodology of training in informatics with hospice" and separately leads exercises in "Informatics", "Statistics", "Biostatistics", "Chemical-Technology Systems", as well as "Statistical processing of information and database";

- participates in the development of the curricula in the disciplines "Quantitative methods" for the specialties "Economic Management", "Marketing" and "Industrial Management", as well as "Mathematical Modeling and Optimization" for the specialties "Inorganic Chemical Technologies" and "Chemical Technologies";

- has issued a textbook, "Quantitative Methods and Optimization" (203 pp.), the teaching aid "From classical to intuitionistic fuzzy analysis of variance" (68 pp.), as well as "Certain applications of statistics in ecology" (79 pp.).

- the average learning load of the Ace. Dr. C. Traneva for the last 5 years is 493 hours, according to the submitted report, i.e. there is collateral of the announced competition for "associate professor";

- manages 2 successfully defended graduates and advises the participation of students with reports in student conferences.

5. Critical notes and recommendations

In essence, I do not have critical notes on the materials submitted for the competition. I have noticed some formal inaccuracies that are not material. I recommend that Dr. Velichka Traneva continue her research and applied activities at a rate similar to that she has worked with over the past few years.

Conclusion

Based on my knowledge of the scientific papers presented, their importance, the scientific and scientific and applied contributions contained therein, as well as the attached competition documents, I find it reasonable to state my strong support and positive assessment and recommend to the Scientific Jury to make a proposal to the Faculty Council of the Faculty of Natural Sciences. Ace. Dr. Velichka Nikolova Traneva to take the academic position "Associate Professor" in professional field: 4.6. Informatics and Computer Science, Scientific Specialty "Informatics (Quantitative Methods, Mathematical Modeling, and Intuitive Fuzzy Statistics).

Date: 29.03.21

REVIEWER: