ATTITUDE OF REVIEWER

for Assist. Prof. Dr. Kremena Vasileva Stefanova
in the competition for acquiring
the academic position "Associate Professor"
at the Faculty of Mathematics and Informatics at
University of Plovdiv Paisii Hilendarski
in area of higher education
4. Natural sciences, mathematics and informatics,
professional field
4.6. Informatics and computer sciences
(Algorithms and models for data analysis),
published in Newspaper of State, issue 57, June 26, 2020 (84 page)

Prepared by: Prof. Dr. Anton Iliev Iliev

By order №P33-4128/25.08.2020 of the Rector of the University of Plovdiv Paisii Hilendarski I was appointed as a member of the Scientific Jury in area of higher education 4. Natural sciences, mathematics and informatics, professional field 4.6. Informatics and computer sciences (Algorithms and models for data analysis).

For the participation in the announced competition for "associate professor" the documents of Assist. Prof. Dr. Kremena Vasileva Stefanova were submitted.

I have received all the required documents for participation in the competition in electronic format.

The candidate has grouped the scientific papers presented in the competition into several thematic areas, structured in the self-assessment of the contributions.

Main Contributions:

A discrete model of a multi-agent system with a leader has been created. Limitations were obtained in the model for reaching a consensus with the leader (articles with №№1 and 2 from the presented list of publications for participation in the competition).

Monograph №6 presents different types of discrete models of neural networks. Their stability is illustrated by computer simulations.

The second group of publications (with №№4, 6, 7, 8 and 10 from the presented

list of publications for participation in the competition) is dedicated to the application of iterative methods for differential equations of fractional order using a computer system. In Articles №№ 7 and 8 we consider an initial problem for a nonlinear scalar differential equation of Caputo fractional order in a finite interval.

In the third group of publications (with №№12 and 13 from the presented list of publications for participation in the competition) algorithms for approximate methods for differential and difference equations are proposed.

Monograph №14 proposes and shows the application in a suitable software environment of some approximate methods for solving different types of differential equations such as differential equations with special type of delays, difference equations and differential equations of fractional Caputo order.

Software application development is the fourth group of publications. Article №15 presents the construction of a module for extracting the structure of electronic textbooks in LaTeX format. Article №16 is dedicated to a prototype of an e-learning system.

Reference for publications and citations:

The candidate submits 15 scientific publications and 2 monographs in the "associate professor" competition.

In journals with Impact Factor (total IF: 5.721 – WoS source) are published six articles in journals with IF assessments – Q1, Q2, Q3 and Q4, respectively, and 6 in journals/editions with SJR.

The candidate has submitted 1 textbook for participation in the competition.

The requirement for the necessary number of papers which are not submitted for the doctorate degree (2012) is fulfilled, which satisfies the requirements within the meaning of the ZRASRB, the Regulations for the implementation of the ZRASRB and the Rules of the "Paisii Hilendarski" for the implementation of the ZRASRB.

The candidate is submitted a list of 50 citations, 25 of which are in IF journals. Total IF: 23.112 and grades from Q1 to Q4.

The minimal national requirements for required points by groups of indicators for the academic position of "associate professor" have been fulfilled.

The additional faculty requirements of the FMI at PU for PRAS in RB of FMI at PU for the position of "associate professor" have been fulfilled, namely – at least 10 publications, at least 5 publications in journals, at least 1 textbook and evidence of at least 5 citations.

I have not found any "plagiarism" in the candidate's work within the meaning of ZRAS in RB.

Assistant Professor K. Stefanova has submitted a report for participation in 7 research and educational projects.

All told so far convinced me to give a positive assessment of the candidate's overall

research.

CONCLUSION

It is clear from the findings of the candidate's works presented in the competition that in they are received sufficient scientific and applied contributions in the field of "Algorithms and models for data analysis".

From the reports presented, it is clear that the candidate has a very good teaching activity which adds to my conviction that Assistant Professor Kremena Stefanova meets the requirements of the ZRASRB, the Regulations for the implementation of the ZRASRB, the Rules of the PU "Paisii Hilendarski" for the implementation of the ZRASRB for the acquiring the academic position "Associate Professor".

My conclusion regarding the acquiring of the academic position "Associate Professor" by Assist. Prof. Dr. Kremena Vasileva Stefanova is POSITIVE.

I suggest to the Honorable Scientific Jury unanimously to propose the Faculty Council of the Faculty of Mathematics and Informatics at the University of Plovdiv "Paisii Hilendarski" to choose the candidate Assistant Professor Dr. Kremena Vasileva Stefanova for the academic position "Associate Professor" in the area of higher education 4. Natural sciences, mathematics and informatics, professional field 4.6. Informatics and computer sciences (Algorithms and models for data analysis).

October 2, 2020 Signature: ……

/Prof. Dr. Anton Iliev/