

OPINION

**on a competition for an academic position "Associate Professor"
announced by the University of Economics – Varna**

1. General information

Who drafted the opinion: Assoc. Prof. Tanka Milkova, PhD, lecturer at the Department of Statistics and Applied Mathematics at the University of Economics - Varna (UE - Varna), Associate Professor in Professional Field 3.8. Economics.

Reason for giving an opinion on the competition: the opinion was prepared on the basis of an order of the Rector of UE-Varna No 06-89 / 05.07.2023 for the composition of a Scientific Jury in a competition for the academic position "Associate Professor" and a decision of the Scientific Jury of 27.07.2023.

2. Competition data

The competition for the academic position "Associate Professor" in field of higher education 3. Social, economic and legal sciences, professional field 3.8. Economics, scientific specialty "Modeling of production and management processes" has been announced for the needs of the Department of Statistics and Applied Mathematics, Faculty of Informatics at UE-Varna and is announced in the State Gazette No. 46/26.05.2023.

3. Contest Candidate

The only candidate in the contest is Chief Assist. Prof. Deyan Georgiev Mihailov, PhD, lecturer in the Department of Statistics and Applied Mathematics at the UE-Varna since 2007.

4. General description of the scientific works submitted after the last procedure

Chief Assist. Prof. Deyan Mihailov, PhD, presents the necessary documents that prove that he meets the minimum national requirements for

acquiring the academic position "Associate Professor" and the requirements for occupying this position at UE-Varna.

For his participation in the competition he presented a monographic work entitled "Simulation modeling of the duration of production and management processes". It is published in a specialized scientific edition, namely the Library "Prof. Tsani Kalyandzhiev" in UE-Varna. The monographic work has been reviewed by two habilitated persons, discussed at a meeting of a primary unit and meets all the requirements to serve for participation in the competition for the academic position "Associate Professor". The topic of the monographic work is significant for the theory and practice in the field of economics and management and fully corresponds to the scientific specialty of the competition. As a result of the research carried out in the monograph, the thesis is defended that for a detailed study of a process it is necessary to model analytically or numerically the distribution function of its duration, and for complexly structured processes this is possible with the application of imitation modeling.

I highly appreciate all other publications of Chief Assist. Prof. Deyan Mihailov, PhD, which are also dedicated to significant scientific and applied problems and problems of student education. They are also very closely related to the scientific specialty of the competition.

Chief Assist. Prof. Deyan Mihailov, PhD, meets the minimum national requirements, as the submitted publications are evaluated at 305 points with 200 points required. In addition to the main monographic work, articles and papers are presented. The publications, with very few exceptions, are self-contained studies of the author. Citations are presented, which are estimated at 330 points, with a minimum of 50 points required. It should be noted that most of the scientific publications and the majority of citations are in publications indexed in world-famous scientific data bases (SCOPUS and Web of Science).

Regarding the satisfaction of the requirements for holding the academic position "Associate Professor" at UE-Varna, I confirm that the presented scientific output of the participant in the competition is evaluated at 135 points for reports with the required 30 points and 170 points for articles and studies with the required 80 points.

With his scientific output, Chief Assist. Prof. Deyan Mihailov, PhD, not only fully covers, but also significantly exceeds all requirements for taking the academic position of "Associate Professor".

I believe that Chief Assist. Prof. Deyan Mihailov, PhD, is an established researcher, is able to develop his own scientific and practical research, identifies problems in the field of modeling production and management processes and offers relevant science-based solutions to these problems.

5. General assessment of the teaching work

Chief Assist. Prof. Deyan Mihailov, PhD, acquires Doctor's Degree in professional field 4.6. Informatics and Computer Science in 2011. Since 2013 he has held the academic position "Assistant" and since 2014 he has held the academic position of "Chief Assistant" at the UE - Varna. He has conducted lectures and exercises in the Bachelor's Degree, the Master's Degree and in courses for PhD students. He taught disciplines such as Applied Mathematics, Operations Research, Discrete Mathematics, Optimization Methods, Quantitative Methods, Economic Systems Modeling, Linear Algebra, Analytic Geometry and Mathematical Analysis, Probability Theory and Mathematical Statistics, Cryptography and Data Protection, etc. He has conducted courses in the field of the protection of classified information in UE-Varna.

He is a co-author in 2 books and 5 textbooks that directly support the academic work with students at UE-Varna. He maintains the e-Learn courses in the disciplines he teaches at a very high level.

Based on the information provided by Chief Assist. Prof. Deyan Mihailov, PhD and my personal impressions of our joint work, I can assess his attitude towards teaching activities as very responsible and consistent.

6. Identification of scientific contributions

I believe that the presented reference to the scientific and applied contributions summarizes correctly the real achievements of Chief Assist. Prof. Deyan Mihailov, PhD, which can be found in his publications. Scientific and applied scientific contributions have been identified, which generally relate to

the following areas: of mathematical optimization; of probabilistic and simulation modelling; of data approximation and estimation of dependencies; of teaching and training. In my opinion, his scientific contributions fully correspond to the scientific specialty of the competition.

7. Critical notes, questions and recommendations

When I got acquainted with the documents presented by Chief Assist. Prof. Deyan Mihailov, PhD, I found out that he meets both the National Minimum Requirements for occupying the Academic Position of Associate Professor and the requirements for occupying this position at the UE - Varna. In many ways, these requirements are even significantly exceeded. I highly appreciate his scientific and teaching work and in view of this I have no critical notes, questions and recommendations.

8. Conclusion. As a summary of the presented opinion and given that the Minimum National Requirements for Associate Professor and the requirements for occupying this position at UE-Varna have been established, I express a completely positive opinion and propose to the honorable members of the Scientific Jury to vote FOR occupying the academic position "Associate Professor" by the candidate in the competition Chief Assist. Prof. Deyan Mihailov, PhD.

04.09.2023

Varna

Заличена информация съгласно
ЗЗЛД и регламент (ЕС) 2016/ 679

Signature:
/Assoc. Prof. Tanka Milkova, PhD/

Opinion

on a competition for the academic position "Associate Professor",
announced by the University of Economics – Varna

1. General information

Prepared the opinion: Professor PhD Svetlana Raycheva Dimitrakieva, TU-Varna.

Grounds for issuing the opinion on the competition: the opinion was prepared based on Order №ПД 06-89/05.07.2023 of the Rector of UE-Varna and decision of the Scientific Jury, taken on 27.07.2023.

2. Contest details

The competition for the academic position "Associate Professor" has been announced under professional field 3.8. "Economics", scientific specialty "Modeling of Production and Management Processes".

3. Contest candidate

The only candidate in the competition is Chief Assistant Professor PhD Deyan Georgiev Mihaylov. He completed his higher education at The Higher People's Military Artillery School "G. Dimitrov", Shumen with a computer engineering degree.

During the period 2016-2018 he studied at Konstantin Preslavsky University of Shumen, obtaining a master's degree in Mathematics. In 2011 he acquired a PhD in Informatics.

4. General description of the presented scientific works after the last procedure

In the competition for the academic position "Associate Professor", Chief Assistant Professor PhD Deyan Mihaylov participated with the following publications:

№	Type of publication	Independent Number/Pages	Co-authored Number/Pages	Total Number/Pages
1.	Monographs	1 – 140 pages	-	1 – 140 pages
2.	Scientific studies	-	-	-
3.	Scientific articles	9 - 88 pages	-	9 – 88 pages
4.	Scientific papers	13 - 95 pages	1 – 7 pages	14 – 102 pages
5.	Textbooks and teaching	-	7 – 1972/692 pages	7 – 1972/692 pages

	aids			
6.	Other publications	-	-	-
	Total:	23 – 323 pages	8 – 1979/699 pages	31 – 2302/1022 pages

The main work for participation in the competition is the monograph "Simulation Modeling of the Duration of Production and Management Processes" in a volume of 140 pages. It was published in a specialized scientific publication "Monographic Library "Prof. Tsani Kalyandzhiev"". It was reviewed by two qualified persons Prof. PhD Vladimir Salov and Prof. PhD Veselin Hadzhiev. A protocol of its discussion at a meeting of the primary unit is presented.

The monograph models the duration of complex non-deterministic processes by obtaining and analyzing the time distribution function for their execution. Two types of models were used - analytical and simulation. For processes with a simpler structure, the distribution function can be obtained relatively easily with analytical methods. For complex processes, according to the author, it is appropriate to use simulation models implemented with the "Monte-Carlo" method. In the direction of simulation experiments, the influence on the changes in the structure of the process and the duration of the activities included in it on the time of its progress was studied.

Other research papers submitted by the participant in the competition include:

- Nine independent articles, four of which were published in scientific publications, referenced and indexed in world-renowned scientific information databases
- Fourteen scientific papers, thirteen of which are independent

A reference to the scientific publications of Ch. Assistant Professor PhD Deyan Mihaylov, included in indexing, referencing and evaluation systems or in the national reference list is presented.

Almost all publications are in the thematic area of the announced competition. The determining factor for the author's scientific output is its relevance and consistency. The specific content is proof of the good awareness in the relevant field, striving for modern interpretation and search for innovative solutions.

Chief Assistant Professor PhD Deyan Mihaylov has submitted a Reference-Declaration of fulfillment of the minimum national requirements for occupying the academic position "Associate Professor" in the field of higher education 3. "Social, Economic and Legal Sciences", according to Art. 2b, paragraphs 2 and 3 of the Act on Development of the Academic Staff in the Republic of Bulgaria, as well as a Reference-

Declaration on the fulfillment of the quantitative requirements for the occupation of the academic position "Associate Professor" at UE-Varna.

In the applicant's documents a Declaration for the authenticity and originality of the presented information and publications, as well as for compliance with copyright requirements is presented.

On the basis of the mentioned references, it can be concluded that the candidate meets the scientometric requirements and regulatory provisions regarding the type and quality of the required publications.

5. General assessment of her educational and teaching work

Chief Assistant PhD Deyan Mihaylov has ten years pedagogical experience. Since 2013 until 2014 Deyan Mihailov is an assistant professor, and since 2014 until now - Chief Assistant Professor at UE - Varna.

The main disciplines he leads are: Applied Mathematics, Operations Research, Discrete Mathematics, Optimization Methods, Quantitative Methods, Modeling of Economic Systems, Linear Algebra, Analytic Geometry and Mathematical Analysis, Probability Theory and Mathematical Statistics, Cryptography and Data Protection.

The attached report on the study load for the last 2 years proves that during the period under consideration the candidate spent 870 hours of lectures and exercises in the EQD "Bachelor" and 132 hours in the EQD "Master".

Chief Assistant Professor PhD Deyan Mihaylov participated in the writing of two textbooks and five study aids.

The candidate taught a course for doctoral students "Processing lists, statistical and business data presented in tabular form with MS Excel". He was a scientific leader of courses in the field of protection of classified information.

Considered above mentioned I believe that a positive assessment of the candidate's teaching activity can be given.

6. Scientific contributions

The scientific research presented in the candidate's publications is aimed at developing current scientific and scientific-applied problems. All directly or indirectly correspond to the theme of the announced contest.

In the research work of Chief Assistant Professor PhD Deyan Mihaylov, the necessary contributing moments are established.

According to the report prepared by him, the scientific and applied contributions are divided into four areas:

- in the field of mathematical modeling
- in the field of probabilistic and simulation modeling
- in the area of data approximation and dependency estimation

- in the field of teaching and learning

I accept most of the defined contributions with the clarification that some of them could be specified and combined.

7. Personal impressions

I know Chief Assistant Professor PhD Deyan Mihaylov from his participation in scientific forums. My personal impressions are that he is a responsible teacher and researcher.

8. Critical notes and recommendations

Recommendations in an Opinion are necessary. In this regard, I recommend to Chief Assistant Professor PhD Deyan Mihaylov to activate his activity on research projects using his scientific potential, as well as to continue his research activity with even greater applicability and implementation of the obtained results in real business practice.

Conclusion

The facts, circumstances and findings listed above give me a reason to propose to the Honorable Scientific Jury to prepare a positive proposal for the election of Chief Assistant Professor PhD Deyan Georgiev Mihailov, at the academic position of "Associate Professor" at the UE - Varna by professional direction 3.8. "Economics", scientific specialty "Modeling of Production and Management Processes". //

13.09.2023

Prepared by: .

/Professor PhD Svetlana Dimitrakieva/

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ИКОНОМИЧЕСКИ УНИВЕРСИТЕТ ВАРНА

Bx. № 7220-964 / 15.09.2023

OPINION

from Dr Radan Vasilev Miryanov
Associate Professor in Economics and Management (Quantitative Methods in Logistics)
at the Department of *Statistics and Applied Mathematics*
of University of Economics – Varna
regarding a competition for occupying the academic position of "associate professor"
in professional field 3.8. *Economics*,
academic specialty "Modelling of Manufacturing and Management Processes".

1. General information and details about the competition

The competition for occupying the academic position of "associate professor" in PF 3.8 *Economics*, academic specialty "Modelling of Manufacturing and Management Processes" for the needs of the Department of Statistics and Applied Mathematics with the University of Economics - Varna was announced in SG 46/26.05.2023. The opinion was drawn up by decision of the first meeting of the Scientific Examining Jury, held on 27.07.2023 at 11:00, pursuant to Art. 4, Para. 8 of the LDASRB, Art. 2, Para. 8 of the Implementing Regulation of the LDASRB and Art. 68 of The Regulation on the Development of Academic Staff in UE-Varna. The members of the Scientific Examining Jury have been appointed by order of the Rector of University of Economics - Varna No ПД-06-89/05.07.2023.

2. Candidates in the competition

Within the announced time period documents for participation have been submitted by 1 (one) candidate: Chief Assist. Prof. Dr Deyan Georgiev Mihaylov.

3. General description of the presented research works after the last procedure (compliance with the requirements of Art. 62, s. 3 in conjunction with Art. 71 of The Regulations on the Development of Academic Staff at the University of Economics - Varna)

The candidate takes part in the present competition with the following publications:

No	Type of scientific publications	Written independently		Written in co-authorship		Total	
		number	pgs	number	pgs	number	pgs
1.	Monographs	1	140			1	140
2.	Studies						
3.	Scientific articles	9	88			9	88



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4.	Scientific papers	13	95	1	7	14	102
5.	Manuals and handbooks			7	692	7	692
6.	Other publications						
	Total:	23	323	8	699	31	1022

Four of the articles and one of the papers written independently are in English. Four of the articles are in journals indexed in Web of Science (one of them is in a journal indexed in Scopus as well). The remaining articles and papers are in journals included in the National Reference List of the National Centre for Information and Documentation (NACID/НАЦИД).

The monographic work of Chief Assist. Prof. Dr Deyan Mihaylov entitled "Simulation Modelling of the Duration of Production and Management Processes" is published under No 74 in the monographic library "Prof. Tsani Kalyandzhiev". In it the influence of the structure of processes and the duration of the activities included in them on the overall duration is studied. The principal research method is repeated simulation of the execution of the process (Monte Carlo method) and plotting a distribution function of the random variable, describing the duration of the process. The conducted simulation experiments yielded interesting results from theoretical and practical standpoint.

Most of the remaining publications present models of processes and systems based on the problem of mathematical optimization, that of Markov processes, game theory, network planning and simulation modelling. Several publications discuss issues of teaching at higher education institutions.

Noted are a total of 29 citations of the presented research works, 20 of them being by foreign scholars and 18 are in journals indexed in Scopus and/or Web of Science.

According to the quantitative requirements for occupying the academic position of "associate professor" at the University of Economics - Varna, laid down in the Regulations on the Development of Academic Staff at UE-Varna, the candidate Deyan Georgiev Mihaylov has 135 points in the indicator *research papers* (the minimum number required being 30 points) and 170 points in the indicator *research articles and studies* (the minimum number required being 80 points).

The candidate meets the minimum national requirements for occupying the academic position of "associate professor" as per the Implementing Regulation of the Law on the Development of Academic Staff in the Republic of Bulgaria as follows:

Group of indicators	Indicator number	Minimum national requirements	Candidate points
A	Indicator 1	50	50
B	Indicator 3	100	100
C	Sum of indicators 4 to 10	200	305
D	Sum of indicators 11 to 13	50	330

4. Overall assessment of the academic and teaching activity (in accordance with the requirement of Art. 62, s. 2 in conjunction with Art. 71 of the Regulations on the Development of Academic Staff at the University of Economics - Varna)

During the period 2013-2014 Chief Assist. Prof. Dr Deyan Mihaylov is an assistant professor, whereas from 2014 until now he is chief assistant professor in the Department "Statistics and Applied



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Mathematics", consequently the candidate possesses a total of 10 years experience in the positions assistant professor and chief assistant professor.

Over the years he has taught classes in EQD "bachelor", in the subjects of Operation Studies, Modelling of Economic Systems, Optimization Methods, Applied Mathematics, Discrete Mathematics, Probability Theory and Mathematical Statistics, Cryptography and Data Protection, Computer Graphics, Mathematical Foundations of Informatics and, in EQD "master", in the subjects of Quantitative Methods and Linear Algebra, Analytic Geometry and Mathematical Analysis.

The subjects taught by the candidate represent the theoretical basis of modelling.

Chief Assist. Prof. Deyan Mihaylov has given a course at the doctoral level on the following theme "Processing of Lists, Statistical and Business Data, Presented in Tabular Form using MS Excel".

He is coauthor of 2 manuals and 5 handbooks, and the parts developed by him constitute a total of 692 p.

There can be drawn the conclusion that as a result of the accumulated practical and teaching experience, the candidate is capable of planning, organizing and conducting lecture and seminar/tutorial classes in subjects or individual modules connected with the academic specialty announced in the competition.

5. Identification of scientific contributions

In the publications of Chief Assist. Prof. Dr Deyan Mihaylov there can be pointed out the following more significant scientific and applied research contributions:

- Simulation models providing the opportunity for studying a process of a complex structure and determining the activities, which have considerable influence on the time for its execution, are created.
- A probabilistic assessment model of the time for the occurrence of an event, dependent on the completion of a specified number of same-type, indecomposable activities running in parallel is created, and is proposed a method for accelerating the occurrence of the event on account of drawing in additional resources.
- A method of determining the minimum strength of an organizational unit (formation) possessing the ability to perform a particular number of diverse tasks, is developed.
- A logical sequence for teaching educational content by conducting a simulation experiment is proposed.

In addition to the abovementioned contributions, the candidate has also solved a number of specific problems in the area of network planning, the operation of technical equipment units of the same type, estimation of numerical characteristics of random variables, planning of manufacturing activities, hitting targets, approximation of data and assessment of dependencies.

6. Critical remarks, questions and recommendations

I have no critical remarks. My recommendation to the candidate is to continue his research in the areas in which he has worked until now, furthermore the applied nature of his work should also find a place in the form of consultancy work.



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7. Conclusion

In view of everything that has been described in the foregoing paragraphs, I think that the candidate meets all requirements for occupying the academic position of "associate professor" set out in the LDASRB and the RDAS of UE-Varna. I give a positive assessment and propose to the members of the scientific examining jury that Chief Assist. Prof. Dr Deyan Georgiev Mihaylov be chosen to hold the position of "associate professor" in PF 3.8 *Economics*, academic specialty "Modelling of Manufacturing and Management Processes".

15.09.2023

Varna

Signed:

(Assoc. Prof. Dr R. Miryanov)





ИКОНОМИЧЕСКИ УНИВЕРСИТЕТ ВАРНА

Bx. № DA20-946/18.09.2023

OPINION

for a competition for associate professor in professional field 3.8 Economics; scientific specialty "Modeling of production and management processes"; announced in the State Gazette issue 46 / 26.05.2023 for the needs of the University of Economics – Varna, Department of Statistics and Applied Mathematics with the only candidate Chief Assist. Prof. Dr. Deyan Georgiev Mihaylov.

By: Prof. Dr. Vladimir Sulov,

from the University of Economics – Varna,

member of the scientific jury under the competition according to Order RD 06-89 / 5.07.2023 of the Rector of the University of Economics – Varna and appointed for the preparation of an opinion at a jury meeting held on 27.07.2023.

I. Personal characteristics of the candidate

The candidate in the competition Deyan Georgiev Mihaylov graduated higher education in 1984 as an engineer in computing, and subsequently had an additional two master's degrees as an officer in the management of operational-tactical formations and in mathematics. In 2011 he acquired the educational and scientific degree "Doctor" in Informatics at Shumen University "Konstantin Preslavski".

For almost 30 years he worked as an officer at the Ministry of Defense, and since 2013 he has been an assistant professor at the University of Economics – Varna and was elected Chief Assistant Professor in 2014.

II. Scientific works, research work and contributions of the applicant

In the competition for associate professor Chief Assist. Prof. Dr. Deyan Mihaylov presents himself with a total of 24 scientific publications, including:



- 1 independent monograph (habilitation work);
- 9 articles, all single-authored;
- 14 reports, of which 13 single-authored.

In addition to scientific publications, the candidate has participation in 7 textbooks and teaching aids.

The main monographic work of Chief Assist. Prof. Dr. Deyan Mihaylov "Simulation modeling of the duration of production and management processes" has a volume of 140 pages, including an introduction, 3 chapters, conclusion, a list of references of 85 sources.

In general, the work, as its title indicates, is devoted to the possibilities of simulation modeling of production and management processes primarily in view of their overall duration and the duration of their individual elements.

The thesis of the work is that "for a detailed study of a process it is necessary to model analytically or numerically the distribution function of its duration, and for complex structured processes this is possible with the application of imitation modeling."

The aim of the work is "to study the influence of the structure of the process and the duration of individual activities on its total duration, supplementing the classical methods with an analysis of the distribution quantiles of the random quantity".

The object of study is "the processes of production of goods and services occurring in the systems and the management processes" and the subject is "the time for their implementation".

The conclusion of the work lists 6 "results obtained from modeling", which we can accept as positive moments and contributions. They concern the applicability of the Monte Carlo method to simulate complex processes in terms of time factor, as well as the author's ideas regarding various specifics in modeling and time analysis, created simulation and probabilistic models. We can summarize that the author successfully used a mathematical apparatus, performed a number of experiments and obtained suitable results.



As a recommendation to the monograph, I can note that the work would have benefited if the author had highlighted more clearly in the text his own models, ideas and proposals.

The other scientific publications and contributions of the author concern a variety of topics, which can still be summarized on the following main topics (everywhere further down in the review I have used the general numbering of the publications as given in the list for participation in the competition):

- related to the topic of the main monograph (publications No4, No15, No16, No19);
- cryptography (publication No. 5);
- models and simulations of shooting fire and management of military operations (publications No6, No8, No9);
- training problems, incl. electronically and remotely (publications No7, No11, No13, No20, No23, No24, No25);
- digitalization of business and decision-making (publications No3, No17, No18).

Four of the publications are indexed in Scopus and/or Web of Science.

There are 29 citations noticed, of which 18 are in Scopus and Web of Science.

I appreciate positively the scientific output and citations of the candidate. Although one can also look critically at the almost complete lack of collective works, I would appreciate the fact that publications are predominantly self and single authored, as indicative of the fact that Chief Asist. Prof. Dr. Deyan Mihaylov has enough of his own analyses, ideas and contributions.

III. Teaching and other activities of the candidate

Chief Asist. Prof. Dr. Deyan Mihaylov has 10 years of experience as an assistant and chief assistant professor. For the last two academic years he has over 1000 auditorium activity lessons equated in exercises.



He has taught classes in many subjects such as "Applied Mathematics", "Computer Graphics", "Cryptography and Data Protection", "Linear Algebra and Mathematical Analysis", "Discrete Mathematics", "Probability Theory and Mathematical Statistics", "Mathematical Foundations of Informatics", "LAAG and MA", "Quantitative Methods".

He has participated in 7 textbooks and teaching aids.

IV. Critical remarks and recommendations

Although there is no such requirement, I expected a reference for participation in scientific projects.

As a lecturer with 10 years of practice at the University of Economics – Varna, although not mandatory, I also expected and it would have been positive for the documents to describe other activities carried out by the applicant, showing his work and empathy for/to the institution.

V. Conformity assessment and conclusion

In conclusion, I can summarize the compliance of the candidate's achievements with the mandatory requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria, including the minimum national requirements, and the Regulations for the Development of Academic Staff at the University of Economics – Varna.

With regard to the requirements of the Law and its Implementing Regulations:

The candidate holds the educational and scientific degree "Doctor".

The candidate has held the academic position of Assistant Professor for more than 2 academic years.

The applicant has presented a monographic work and also other publications in specialized scientific journals.



The applicant meets and exceeds the minimum national requirements for the academic position of "Associate Professor" in professional field 3.8 in all categories and in total.

There is no plagiarism detected.

Regarding the additional requirements in the Rules for the Development of Academic Staff at the University of Economics – Varna:

The main monographic work has been published in a specialized scientific publishing house and has been discussed in advance in a specialized primary unit and reviewed by two habilitated persons.

The candidate fulfils the quantitative requirements regarding publications.

In view of the above, I believe that the applicant meets the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria, the Regulations for the Implementation of the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations for the Development of Academic Staff at the University of Economics – Varna. Based on this, and also on the basis of all the real achievements of the candidate, I recommend to the esteemed jury to award the academic position of "Associate Professor" in professional field 3.8 Economics to Chief Asist. Prof. Dr. Deyan Georgiev Mihaylov.

Sep 15, 2023

Varna

Opinion prepared by:

(Prof. Dr. Vladimir Sulov)

Заличена информация съгласно
ЗЗЛД и регламент (ЕС) 2016/ 679

REVIEW

By Prof. Antoaneta Tsvetkova, MD, PhD
Medical University – Prof. Dr. Paraskev Stoyanov" – Varna
Medical College – Varna

Member of a scientific jury, according to Order PK 06-89/05.07.2023 of the Rector of
University of Economics – Varna.

Regarding the competition announced in SG No. 46/26.05.2023 for the occupation of an academic position "Associate professor" in PD 3.8. "Economics", scientific specialty "Modeling of production and management processes" for the needs of the Department of "Statistics and Applied Mathematics" at the University of Economics – Varna.

According to Art. 4, para. 8 of ZRASRB, art. 2, para. 8 of the Regulations for the Implementation of the RSARB and Art. 68 of the Regulations for the Development of the Academic Staff at University of Economics – Varna, on 27.07.2023, I was appointed to prepare an opinion at a meeting of the Faculty of Education.

Only one candidate took part in the announced competition – chief assistant Deyan Georgiev Mihailov, Ph.D. All necessary documents for participation in the competition are presented precisely and correctly, and the documents are in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and the Rules for the Development of the Academic Staff and the requirements for occupying the academic position of "Associate professor" at University of Economics – Varna (on the basis of Art. 2b, Para. 5 of ZRASRB).

I. Biographical data.

Chief assistant Deyan Georgiev Mihailov, Ph.D., obtained educational degrees as a computer engineering engineer, a master's degree as an officer in the management of operational – tactical formations, and a doctorate in informatics in 2018 at Bishop Konstantin Preslavski School of Economics. His professional development passed from 1984-2012 through the Ministry of Defense as an officer, since 2013 he has successively held the position of assistant, chief assistant at University of Economics – Varna until the present time. His research interests are in the fields of: applied mathematics, operations research, discrete mathematics, optimization methods, quantitative methods, modeling of economic systems, linear algebra, analytic geometry and mathematical analysis, probability theory and mathematical statistics, cryptography and data protection.

Participates in teaching in doctoral level courses "Processing lists, statistical and business data presented in tabular form with MS Excel". Scientific leader of courses in the field of protection of classified information.

II. Scientific activity.

II. 1. Doctoral Dissertation.

In 2011, he defended his doctoral dissertation on the topic "Research of methods and tools for distance learning in a distributed network environment." It is not reviewed in this review, as it has already been reviewed by a scientific jury, it forms 50 points for the candidate according to the minimum national criteria under criterion A.

II. 2. Monographs.

Mihailov, D. Simulation modeling of the duration of production and management processes. Varna: Science and Economics, 2021, 140 pp. ISBN 978-954-21-1079-8; Directed by: Vladimir Salov, Veselin Hadjiev.

In the contest for chief assistant Deyan Georgiev Mihailov participated with a monograph on the topic "Simulation modeling of the duration of production and management processes", which fulfills the requirements for a monograph and forms 100 points of the minimum national criteria. The monograph models the duration of complex non-deterministic processes by obtaining and analyzing the time distribution function for their execution. Two types of models were used – analytical and simulation. For processes with a simpler structure, the distribution function can be obtained relatively easily with analytical methods. For complex processes, it is appropriate to use simulation models implemented with the "Monte-Carlo" method. In the simulation experiments, the influence on the changes in the structure of the process and the duration of the activities included in it on the time of its progress was studied. The monographic work submitted for this competition is original, and it corresponds to the profile and professional development of the candidate. Satisfies the requirements of ZRAS in the Republic of Belarus and the Regulations of the University of Economics – Varna.

II. 3. Scientific publications.

The total number of scientific publications in which Chief assistant Deyan Georgiev Mihailov, Ph.D., is the author or co-author of 31, the distribution of which is: articles – 10 (including indexed in SCOPUS and Web of Science – 5); reports – 14, co-authorship in textbooks – 2; co-authorship in study aids – 5. In 21 is an independent author. According to data from the attached reference, 5 of the publications are referenced in Web of Science (WOS) and meet the requirements of University of Economics – Varna, the points in column D of the required 200 points, the candidate has 305. According to this indicator, the candidate meets the requirements of University of Economics – Varna. Publications are in the fields of mathematical optimization (9,22,16), simulation modeling (6,8, 14 15, 19,10), data and dependency estimation (12,17,18, 21), teaching and training (7, 11, 13, 20, 23, 24, 25).

Studies correspond to the scientific development of the candidate and the profile of the competition for an Associate professor and satisfy the requirements of the Regulations for the RASRB and the Regulations for the RAS of Varna University.

II. 4. Other scientific activities.

In addition to the scientific activity of Chief assistant Deyan Georgiev Mihailov, Ph.D., he also works with students and doctoral students, and is the supervisor of courses in the field of classified information protection.

Participation in research projects:

- Simulation modeling of complex production activities.
- Models for optimal inventory management in the logistics system.
- Quantitative methods in human resources management.
- Preparation of a mathematical algorithm for the analysis of vital parameters under project No. 2021/584969 - "TOKO - An innovative system for remote monitoring and health care" under the Bulgaria Innovation Norway grants program (BGB-NORWAY 1154).

These data show an active teaching position, striving to create of followers and alumni, which is an indisputable contribution of ch. assistant Professor Deyan Mihailov, Ph.D.

II. 5. Quatations.

Both the academic reference and additional citations are presented, which are also divided into minimum required and above requirements. The citations also cover the requirements of the Regulations under the ZRAS and the Regulations of the University of Varna.

III. Teaching activity.

Ch. assistant Professor Deyan Georgiev Mihailov has taught in the disciplines of applied mathematics, operations research, discrete mathematics, optimization methods, quantitative methods, modeling of economic systems, linear algebra, analytical geometry and mathematical analysis, probability theory and mathematical statistics, cryptography and data protection. From the attached study load report, the candidate meets the requirements of the Rules of the University of Economics – Varna.

IV. A summary of the applicant's contributions.

The first direction of the contributions of Ch. assistant Professor Deyan Georgiev Mihailov, Ph.D., is in the scientific field where the duration of processes with a complex structure has been studied. Simulation models have been created, enabling the determination of the activities that have a significant impact on the execution time of the entire process (publications 2, 4). A case has been made for a way to effectively accelerate the occurrence of the event at the expense of attracting additional resources (publications 2, 3).

The second direction is scientific-applied contributions in the field of mathematical optimization, where the possibility of reducing costs in the execution of works from a network schedule is investigated. In the field of probabilistic and simulation modeling to evaluate the numerical characteristics of random variables and to evaluate the adequacy of simulation models by comparing the result of the simulations with the mathematical model (publications 14 and 15).

The third strand is in the area of data approximation and dependency estimation. A control module has been developed (in co-authorship) to stabilize the operation of an electric motor with a

limited amount of memory. The factors affecting the volume of construction production in the Republic of Bulgaria for the period 2000-2014 were studied and evaluated using the Cobb-Douglas production function (publication 18).

I would define the fourth direction in the field of teaching and learning as the most essential. A logical sequence of teaching content using a simulation experiment is proposed (Publication 7). The possibilities of applying closed-response tests to assess the learning of individual learning units have been investigated. The possibility of creating tests guaranteeing a predetermined probability of not making a scoring error has been substantiated (pubs. 11, 25). A model of the learner based on the progress achieved in learning the learning content has been proposed (publications 23, 24). The state of the entrance level in mathematics of first-year students from IU-Varna and its changes over the years were investigated (publications 13, 20).

The presented scientific works concern current topics, are analytical and have the potential for practical application. They are relevant to the education of undergraduates, postgraduates and doctoral students.

V. Notes and recommendations.

Regarding the candidate's future scientific research work, I have a recommendation for greater activity in international scientific journals and forums, including those with an impact factor. The results of the conducted research can be systematized and developed with scientific and cognitive solutions.

VI. Conclusion.

Considering the fulfillment of the national criteria, their exceeding in the individual indicators, as well as the professional development, educational activity, scientific achievements, public and administrative activity of Chief assistant Deyan Georgiev Mihailov, Ph.D., I consider that he meets the requirements for occupying the academic position "Associate professor" in PD 3.8. "Economics", scientific specialty "Modeling of production and management processes" for the needs of the Department of "Statistics and Applied Mathematics" at the University of Economics – Varna.

I give a positive assessment and recommend to the members of The scientific jury to vote for the awarding of the academic position "Associate professor" to Chief assistant Deyan Georgiev Mihailov, Ph.D.

20/09/2023
Varna

Заличена информация съгласно
ЗЗЛД и регламент (ЕС) 2016/ 679

Reviewer:
Prof. Antoaneta Tsvetkova, MD, PhD