

## REPORT

by Prof. DSc **Ivan Nikolov Landjev**, New Bulgarian University

in the competition for the scientific position of “**professor**” in New Bulgarian University

Scientific Field: **4. Natural Sciences, Mathematics and Informatics**,

Professional Field: **4.5. Mathematics**

announced in “**Darzhaven vestnik**” No **35/18.04.2023**

Candidates: **1) Assoc. Prof. Dr. Danail Stefanov Brezov**

**2) Assoc. Prof. Dr. Dimitar Vladislavov Atanasov**

### **I. Fulfillment of the minimal national requirements and the requirements of the New Bulgarian University**

#### **1) Assoc. Prof. Dr. Danail Stefanov Brezov**

The candidate has defended a PhD thesis entitled “Vector parametrizations and factorizations in Euclidean and hyperbolic models in mechanics” in 2015 and covers the requirements in group A. Groups C and D from the minimal requirements are covered by scientific papers where the candidate claims 276 and 441 points, respectively. These are obtained from 8 papers in group C and 13 papers in group D. The list of these papers is different from the list of papers presented by the candidate in his application where he lists just 12 papers. (Note that these papers are just eleven since one of them is just submitted for publication. On the other hand the 13 papers on the site of NACID do not coincide with 18 papers used by the candidate in his application for the position of associate professor at UACEG in 2019. It can be accepted that the candidate fulfills the minimal national requirements but with a smaller number of points.

In group E the candidate claims 28 citations which amount to 216 points. In addition, he has presented an independent list of citations which does not coincide with the citations listed in the table. Nevertheless, I accept that he fulfills the requirements in this point, although some of the citations might be questionable like citation 6 of paper [1], which is a master’s thesis and should not be accepted.

In group F the candidate claims 220 points while the required amount of points is 100. Here, the 50 points claimed for participation in national projects should be 10 since internal university projects are not national and should not be credited. My opinion is that there is not enough evidence for participation in international projects, as well. Nevertheless, the candidate presents three texts (textbooks) which can be considered as published electronically and should be credited with  $3 \times 40 = 120$  points. I shall comment on these electronically published texts further on. I think that the candidate fulfills the requirements in this point.

Since the candidate has not been an employee of the New Bulgarian University I think that the specific requirements do not apply for him. But he has analogous activities UACEG which after a careful scrutiny will provide the required amount of points.

## **2) Assoc. Prof. Dr. Dimitar Vladislavov Atanasov**

The candidate has defended successfully a PhD thesis entitled “Robust methods for scaling and pointwise estimation” in 2008 which covers the requirements in group A. Since the candidate does not present a habilitation thesis, he covers the minimal national requirements in group C with two papers in journals from group Q2 that give 120 points. In group D he presents another eight papers that bring him 267 points (required are 200 points). All papers in groups C and D are written after 2020 and have not been used in previous applications of the candidate. His PhD degree is obtained in 2007 (under the old law) and his associate professorship is in 2013.

In his application the candidate gives evidence for 77 citations of his papers that have not been used in previous procedures. These citations give 616 points which covers by a wide margin the minimal national requirements in group E. The candidate covers and even exceeds the minimal requirements in this group.

The candidate fulfills the requirements in group F. In this group he claims a total of 270 points that are obtained from a participation in national projects (170 points) and international projects (100 points).

Groups G and I include special requirements imposed by the special regulations in the New Bulgarian University. The candidate fulfills and even exceed also the requirements in these two groups.

All in all, I accept that both candidates fulfill the minimal national requirements.

## **II. Research activities**

### **1) Assoc. Prof. Dr. Danail Stefanov Brezov**

The scientific research of Assoc. prof. Danail Brezov is focused on geometric models of low dimension that are applied further for solving of different classes of problems in kinematics. He investigates also parametrizations of Euclidean rotations based on two axes decompositions. These papers can be related to the field of mechanics. Two papers from the presented list are on the application of statistical methods used for solving particular practical problems. The candidate has presented 12 papers one of which is just submitted and is not included in the list below. These papers are published as follows:

- Series in Knots and Everything (IF) – 1
- Applied Sciences (IF) – 2
- Environmental Research (IF) – 1
- Advances in Applied Clifford Algebras (IF) – 4
- Mathematical Methods in Applied Sciences (IF) – 1
- Conference Proceedings – 2

In four papers the candidate is the only author, two of them are with one co-author, four are with two co-authors and one is with six co-authors. I accept that the contribution of the candidate in the joint papers is equal to that of the other co-authors.

## **2) Assoc. Prof. Dr. Dimitar Vladislavov Atanasov**

The scientific research of Assoc. Prof. Dimitar Atanasov is devoted mainly to the application of various stochastic models to the solution of different practical problems mostly in the fields of psychology, psychometrics and the estimation of information characteristics. Technically this amounts to the development of tools for the estimation of different parameters in branching stochastic processes. A large part of the scientific work of Dimitar Atanasov includes the development of an original software which demonstrates and applies the theoretical results obtained by him. The candidate has presented a list of 10 scientific papers that are published in the following journals:

- Applied mathematics (IF) -2
- Comptes Rendus de l'Academie Bulgare des Sciences (IF) – 2
- Interdisciplinary research (IF) – 1
- Journal of Applied Statistics – 1
- Psychological Thought – 1
- Stochastics and Quality Control – 1
- Measurement: Interdisciplinary Research and Persp. - 1
- Proc. Mathematics and Education in Mathematics - 1

In four of the papers the candidate has one co-author, in six – two co-authors. I accept that the contribution of the candidate is equal to that of the other coauthors.

## **III. Teaching activities**

### **1) Assoc. Prof. Dr. Danail Stefanov Brezov**

Danail Brezov has taught tutorials and lectures in UAECG in a wide range classical mathematical disciplines like Analysis (parts 1 and 2), Linear Algebra and Analytical Geometry, Descriptive Geometry, as well as the same disciplines in English for foreign students. The wide spectrum of disciplines covered by the candidate is impressive. He is very active in the development of new courses. He has created materials for all the courses he teaches. I would like to mention also the three textbooks – Applied Mathematics, Linear Algebra and Analysis (part 2) – that are published electronically.

### **2) Assoc. Prof. Dr. Dimitar Vladislavov Atanasov**

Dimitar Atanasov is very active as a teacher and is covering a large spectrum of courses in the New Bulgarian University. I would stress here fundamental courses for the programs in the New Bulgarian University like GENB002A GENB002B “Statistics”, PSYE107 “Statistics and behavioral research”, CITB655 “Data Warehouse”, CITB502 “Game Theory”, DSCM030 “Data Theory”. As a whole, his teaching load exceeds the average load of a teacher at the New Bulgarian University.

Dimitar Atanasov has developed teaching materials in all the disciplines he teaches. In addition, he is very active in supervising diploma theses of student from all programs in department “Informatics”, in writing reviews for diploma theses, supervising student projects, in taking part in various scientific juries and panels for state exams.

#### **IV. Administrative and community activities**

I do not have information about any administrative positions held by the first candidate.

In different periods of his engagement at the New Bulgarian University Dimitar Atanasov has served as a department chair of Department Informatics, as a Director of the program “Informatics”, as a member of the faculty council of the Masters faculty, as well as a member of the Academic Council of the New Bulgarian University.

#### **V. Personal comments**

I do not know personally Daniel Brezov.

I have known Dimitar Atanasov for fifteen years. He is with the Department of Informatics at the New Bulgarian University since 2013. I have the most favorable opinion of his professional capabilities and his commitment to the teaching and research activities of the department.

#### **VI. Critical remarks**

1) The three texts presented as electronic textbooks by the first candidate comply with the requirements by NACID because they have an ISBN and are published on the site of the UAECG. On the other hand, it is a bit far-fetched to consider them as real textbooks. It is not clear why should textbook be written for classical disciplines where there exists hundreds of excellent books. It is not clear whether the textbooks have been peer reviewed in some way..

2) This remark relates to paragraph 64(2) from the regulations of NBU. This paragraph is present literally in the law and the specific regulations of all universities in Bulgaria. This paragraph is ambiguous. It does not become clear whether the candidate should have served two or five years as an associate professor at his native university. I have interpreted this text in favor of the first candidate.

3) I would refrain from critical remarks and suggestions for future work. At this level the candidates have a very clear idea for their research and publication activities. The standard remark here is to suggest more active work with PhD students but this depends on the presence of a corresponding program at the corresponding university.

#### **VII. Conclusion**

Assoc. Prof. Dr. Danail Stefanov Brezov is an established specialist in the fields of mechanics, differential and algebraic geometry and their applications in physics. During the year he has published a good amount of scientific paper which have been estimated highly from the specialists in the field. He is an active teacher at UACEG, where he is the author of many new courses. I have not established of any kind in the presented papers.

Assoc. Prof. Dr. Dimitar Vladislavov Atanasov is a specialist in the field of statistics and its applications. He is a distinguished teacher with a huge teaching load in various disciplines related to probability and statistics and their applications. He has participated in successfully in many interdisciplinary project. In the publications presented in his application I have not discovered plagiarism of any kind.

In my opinion, both candidates fulfill the requirements of the Bulgarian Law for the promotion of the academic staff, as well as the special requirements of the New Bulgarian University. I estimate **positively** the application of Assoc. Prof. Dr. Danail Stefanov Brezov and Assoc. Prof Dr. Dimitar Vladislavov Atanasov and advise this Scientific Jury to propose the candidates to the Academic Council of the New Bulgarian University where she should be voted for the academic position of full professor in the scientific field: 4. Natural Sciences, Mathematics and Informatics, professional field: 4.5. Mathematics. I arrange them in descending order as follows:

- 1) Assoc. Prof Dr. Dimitar Vladislavov Atanasov
- 2) Assoc. Prof. Dr. Danail Stefanov Brezov

Sofia, 27.08.2023

Signature .....

(Prof. Ivan Landjev)