REPORT

By Assoc. Prof. Yulian Tsankov Tsankov,
Sofia University St. Kliment Ohridski, Faculty of Mathematics and Informatics,
professional field 4.5 Mathematics (Geometry) in his capacity of Scientific Jury Member following Order # 467/10.10.2023 of the Director of Institute of Mathematics and Informatics, Bulgarian Academy of Sciences
on Competition procedure for the position of "Associate professor" in field of higher education: 4. Natural Sciences, Mathematics and Informatics
Professional field: 4.5 Mathematics
"Geometry and topology",
Announced by IMI - BAS Gazette, issue 69 /11.08.2023

For participation in this competition there applied only one candidate: Stoyu Tzvetkov Barov, PhD in Mathematics.

1. Description of the application

Documents presented at the competition by Stoyu Tzvetkov Barov, meet the requirements of the Law for Development of the Academics in the Republic of Bulgaria, Bylaws for implementation of the Law for Development of the Academics in the Republic of Bulgaria and at IMI - BAS.

2. Data for Applicant

Stoyu Tzvetkov Barov graduated in 1992 with a Master's Degree in Mathematics at Sofia University. The title of the thesis: "Some properties of gF-topological spaces, spaces of the classes of K and K', and hyperspaces endowed with the Tychonoff topology." Advisor: Prof. George Dimov.

In 2001 he defended his PhD in The University of Alabama. The title of the dissertation: “ON SETS WITH CONVEX SHADOWS”, Ph.D. Advisor: PROF. JAN J. DIJKSTRA

From 2001 to 2004 he has been an Assistant Professor at Ball State University.

From 2004 until now, he has been Researcher at the Bulgarian Academy of Sciences – Institute of Mathematics, Sofia, Bulgaria

3. General characteristic of the scientific works

The scientific results with which Stoyu Barov applies are in the field of General Topology, Selection Theory and Geometric Tomography/Topology, convex geometry in TVS (topological vector spaces).

Approbation of the results: Stoyu Barov has presented his results at a series of national seminars and international conferences – in Bulgaria, and abroad.

Numerical indicators: According to the IMI - BAS regulations and the regulations for the Law application on the minimal national criteria for occupation of the academic post “Associate Professor”, the required indicators and the indicators for the applicant Stoyu Barov are provided in the TABLE below. It is evident that these criteria are satisfied:

Group	A	B	Г	Д	E
Applicant’s points	50	100	238	93	40
Minimum points required	50	100	220	70	20

a) The submitted publications are in full compliance with the minimal national requirements under Art. 2B (2) and (3) of ZRASRB, as well as with the additional requirements of IMI – BAS for the academic position “Associate Professor” in the professional field of this competition;

b) None of the submitted publications have been submitted in a preceding procedure for acquiring a scientific title or an academic position;

c) There is no lawful evidence for plagiarism in the submitted publications.

4. Analysis of the scientific achievements of the applicant

The scientific contributions of the candidate in the submitted 15 articles [1-17] (without [5] and [7]) for the competition could be summarized in the following:

In the area of General Topology are 5 articles - [1-4] and [8]. In the area of General Topology are 5 articles - [1-4] and [8]. In the area of Selection Theory are 2 articles - [6] and [11]. In the area of **convex geometry in TVS (topological vector spaces) and Geometric Tomography/Topology** are 8 articles - [9], [10] and [12-17].

In the article [2] the author discuss the assertion of H. J.Schmidt, that is, whether every Hausdorff HS-space is a T3-space. In this paper author give a partial solution to this question. The article has been cited 7 times.

Main results in [9] are: a) It is shown that if C is a closed and nonconvex set in Hilbert space l^2 such that the closures of the projections onto all k-hyperplanes (planes with codimension k) are convex and proper, then C must contain a closed topological copy of l^2.

Stoyu Barov has participated in 2 national scientific and educational projects and 1 international scientific and educational projects.

5. Characteristic of the teaching activities of the applicant

Stoyu Barov led an exercises and lectures in the disciplines: Calculus, Algebra, Differential Equations at Sofia University, The University of Alabama, Ball State University.

6. General Conclusion

Having become acquainted with the materials and the scientific works submitted in the competition and on the basis of the analysis of their significance and the scientific and applied contributions contained there **I confirm that the scientific achievements meet the requirements** of the ZRASRB, the PPZRASRB and the corresponding Regulations of **IMI - BAS** for the occupation by the candidate of the academic position "**Associate professor**" in the scientific field and professional direction of the competition. In particular, the applicant meets the minimum national requirements in the professional field and no plagiarism was found in the scientific works submitted at the competition.

I give a **positive assessment** of the application of **Stoyu Barov** for the academic position of "Associate professor" in the professional field 4.5. Mathematics (Geometry and topology) in the competition announced for the needs of **IMI – BAS.**

Based on the above, **I recommend** the scientific jury to propose to the body of Faculty of Pharmacy at Medical University – Plovdiv, competent on the election on this procedure, **to elect Stoyu Barov** to occupy the academic post "Associate professor" in the professional field 4.5 Mathematics (Geometry and topology).

20.11. 2023 Prepared by:……

Assoc. Prof. Yulian Tsankov