

REVIEW

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On the documents submitted for a participation in the competition for an occupation of the academic position “Associate Professor” at the Faculty of Mathematics and Informatics in University of Plovdiv Paisii Hilendarski on **Research area: 4.** Natural sciences, mathematics and informatics, **Professional field 4.5.** Mathematics (Mathematical analysis), announced in the State Gazette no. 40 of 14.05.2021 and on the web site of the University of Plovdiv Paisii Hilendarski, where Stoil Ivanov Ivanov, PhD an Assist. Prof. from University of Plovdiv Paisii Hilendarski participates as a candidate – **the only one** candidate.

By Order №P33-3130/12.07.2021 of the Rector of the University of Plovdiv Paisii Hilendarski, I was appointed as a member of the Scientific Jury of the competition for the occupation of the academic position “Associate Professor” in on Research area: 4. Natural sciences, mathematics and informatics, Professional field 4.5. Mathematics (Mathematical analysis).

As a member of the jury I, obliged to write a review, have received all the necessary documents attached to the application of Assist. Prof. Stoil Ivanov Ivanov, PhD to the Rector of the University of Plovdiv Paisii Hilendarski for participation in the competition. The documents are well designed and arranged.

For the participation in the announced competition **just one candidate** (Assist. Prof. Stoil Ivanov Ivanov, PhD) has submitted documents. He has enclosed two reports to satisfy the minimum national requirements: for a PhD degree, already obtained in 2014; a reference for the satisfaction of the minimum national requirements for occupation of the academic position “Associate Professor” in Professional field 4.5. Mathematics; Information on compliance with the additional requirements of the the Faculty of Mathematics and Informatics in University of Plovdiv Paisii Hilendarski.

The candidate has received his PhD in 2014, thus he satisfies the minimum national requirements and has a score of 50 points for the group of indicators “A”.

The candidate has been an Assistant Professor at the University of Plovdiv Paisii Hilendarski from February.2015 till now.

The applicant has presented two papers indexed in WoS with Q1 and Q3, thus he satisfies the Law on the Development of the Academic Staff in the Republic of Bulgaria and therefore satisfies the requirement of a group of indicators "B" -120 points.

The applicant participates in the competition with 6 articles, 4 in WoS with Q1, one in woS with Q2 and one in SCOPUS with SJR, thus he satisfies the Law on the Development of the Academic Staff in the Republic of Bulgaria and therefore satisfies the requirement of a group of indicators “T” is 390 points.

The Assist. Prof. Stoil Ivanov enters the competition with 38 citations from the WoS and/or SCOPUS database, thus he satisfies the Law on the Development of the Academic Staff in the

Republic of Bulgaria and therefore satisfies the requirement of a group of indicators “Д” is 304 points.

The applicant has

10 publications (8 required by the additional requirements of the Faculty of Mathematics and Informatics),

8 articles in journals (5 required by the additional requirements of the Faculty of Mathematics and Informatics),

7 publications (3 required by the additional requirements of the Faculty of Mathematics and Informatics),

72 citations (5 required by the additional requirements of the Faculty of Mathematics and Informatics),

1 textbook (1 required by the additional requirements of the Faculty of Mathematics and Informatics),

This short and formal review shows that all minimum national requirements and the additional requirements of the Faculty of Mathematics and Informatics are met.

GENERAL CHARACTERISTICS OF CANDIDATE ACTIVITIES

EVALUATION OF EDUCATIONAL AND PEDAGOGICAL ACTIVITY

Assist. Prof. Stoil Ivanov was born in 1975, graduated with a specialty Engineer in transport in 1996 as a bachelor specialist at University of Transport “Todor Kableshkov”, graduated with a specialty teacher in Mathematics and Informatics and information technologies at the University of Plovdiv “Paisii Hilendarski” in 2002. Master degree in mathematics 2002, Master degree in engineering at University of Transport “Todor Kableshkov” in 2010 and PhD in mathematics analysis in 2014 in University of Plovdiv “Paisii Hilendarski”.

I know personally the candidate from since 2010. I have developed the opinion, from his study as a PhD student and from the reports presented by him at seminars and conferences. Stoil Ivanov has the ability to present his results in an understandable and interesting language, according to the audience of listeners. Informal conversations and discussions with the candidate convinced me of his desire to share his knowledge and skills with all willing to listen, as well as his interest in research.

EVALUATION OF SCIENTIFIC AND SCIENTIFIC-APPLIED ACTIVITIES

I divide the applicant's scientific contributions into four areas:

1) Study of high-order iteration methods for individual approximation of simple and multiple polynomial zeros

2) Study of high-order iteration methods for simultaneous approximation of simple and multiple polynomial zeros

Method for finding all the zeros of a polynomial simultaneously [2-10] are investigated and individual approximation of simple and multiple zeros [1] is obtained in the articles presented for

the competition. Most of the results are accompanied with illustrative examples. Generalizations of Halley's method [1,4], Chebyshev's iterative method [2,4], Schröder's iterative method [3,6], Newton's method [4], Dochev-Byrnev's method [5], the Ehrlich's method [5], Proinov's approach [5], Sakurai, Torii and Sugiura's method [7,8,9], Gander's method [10], Weierstrass' method [10], A local convergence analysis is presented in [1,2,3,4,6,8,9,10] and semilocal convergence analysis is presented in [1,5,7,9,10].

The publications [3,7] are a just abstracts of talks, without proofs of the main theorem. These two publications are not indexed in WoS or/and SCOPUS and therefore do not change the points for meeting the minimum requirements. It is debatable whether abstracts can be counted as publications, but even without these two publications, the candidate satisfies the additional requirements of the Faculty of Mathematics and Informatics.

I have not found "plagiarism" in the works of the candidate in the sense of the "Law on the Development of the Academic Staff in the Republic of Bulgaria" in the Republic of Bulgaria.

CRITICAL NOTES

All the presented results are in the field of the PhD thesis of the competitor (finding of zeros of polynomials). I recommend Stoil Ivanov to increase the field of his investigations. Fixed point theory has great number of branches and it will be interesting to apply his knowledge in other branches of the fixed point theory. His textbook is in Linear Algebra and Analytic Geometry (with a co-author Assoc. Prof. marta Teofilova, PhD, a colleague from the department of Algebra and Geometry). I recommend Stoil Ivanov to prepare a textbook in Mathematical Analysis as far as it is evident from his publications that he has deeper knowledge in Mathematical Analysis.

CONCLUSION

In my opinion the candidate Assist. Prof. Stoil Ivanov has obtained enough results both in quality and quantity. The presented documents meet the requirements, conditions and criteria of the Law on the Development of the Academic Staff in the Republic of Bulgaria, Rules for applying of the mentioned above law, Rules for the conditions and order for acquiring academic degrees and academic positions at University of Plovdiv "Paisii Hilendarski" to occupy the academic position "Associate professor". Therefore I give my **strictly positive assessment and I recommend to the Scientific Jury to prepare a report-proposal to the Honorable Scientific Faculty of Mathematics and Informatics for the election of Assist. Prof. Stoil Ivanov Ivanov, PhD for the academic position "Associate Professor" in the University of Plovdiv "Paisii Hilendarski" in Research area: 4. Natural sciences, mathematics and informatics, Professional field 4.5. Mathematics (Mathematical analysis)**

19.08.2021

Signature:
/Prof. Boyan Zlatanov, PhD/