

R E V I E W

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of the materials submitted for participation in the competition for the occupation of the academic position of "Associate Professor" at the Paisii Hilendarski University of Plovdiv in the field of higher education 5. Engineering sciences, professional field 5. 2. Electrical engineering, electronics and automatics (Electronic Circuit Theory and Electronic Circuitry).

In the competition for "Associate Professor" announced in the State Gazette (SG, issue 31 of 12.04.2019) and on the website of the Paisii Hilendarski University of Plovdiv for the needs of the ECIT Department of the Faculty of Physics and Technology, as a candidate Chief Assist. Dr. Sotir Ivanov Sotirov from the same department.

1. General presentation of the received materials

By order # P33-2887 of June 11, 2019, from the Rector of the Paisii Hilendarski University of Plovdiv (PU), I was appointed a member of the scientific jury of a competition for the position of associate professor at the PS in the field of higher education 5. Technical Sciences, Professional Degree 5.2 Electrical Engineering, Electronics and Automatics (Electronic Circuit Theory and Electronic Circuitry), announced for the needs of the ECIT Department of the Faculty of Physics and Technology of the University of Plovdiv.

Only the applicant has submitted documents for participation in the announced competition: Chief Assist. Dr. Sotir Ivanov Sotirov from the Department of ECIT at the Faculty of Physics and Technology of the University of Plovdiv.

For the purpose of the competition, the applicant has submitted the necessary, required documents and scientific production. They fully comply with the eligibility requirements for candidates participating in the "associate professor" competition, in accordance with the ZRASRB, PPZRASRB, the Regulations for the development of the academic staff of the PU, as well as the specific requirements for the procedures for the development of the academic staff of the Faculty of Physics and Technology at the PU "Paisii Hilendarski".

The set of paper materials submitted by Sotir Sotir is in accordance with the Regulations for the development of the academic staff of the PU and includes the following documents: Application form to the Rector, CV, Diploma for Master's Degree Program, Diploma for Doctoral Studies, List of scientific papers, Reference to compliance with national minimum requirements, Abstracts of publications (in Bulgarian and English), Self-assessment of contributions, Declaration of originality and authenticity, Transcripts of protocols of the Department council, Faculty council, AC in connection with the contest, Official Gazette with the announcement of the competition (copy), Service notes (for work experience, for study work, for research) - 3 pcs.

The candidate Sotir Sotirov has applied a total of 25 scientific papers, 1 monograph and a list of 5 research papers. The submitted works are generally accepted for review. All materials are properly

shaped and arranged. The procedural requirements for the announcement and participation of the candidate in the competition have been complied with Chief Assist. Dr. Sotir Sotirov.

The applicant meets the minimum scientometric criteria for acquiring the academic position of associate professor in field 5. Technical sciences, as shown in the table.

Grup	Content	For Assoc. Prof.	For S. Sotirov
A	Indicator 1	50	50
	1. Dissertation thesis for the award of educational and scientific degree "Doctor" (PhD)	50	50
B	Indicators 3 or 4	100	100
	3. Habilitation work - monograph	100	100
	4. Habilitation work - scientific publications (not less than 10) in publications that are referenced and indexed in world-renowned databases of scientific information	60/n for each publication	-
G	Sum of indicators from 5 to 9	200	202,66
	5. A monograph published that is not presented as a major habilitation work	30	-
	6. Book published on the basis of a dissertation thesis for the award of educational and scientific degree "doctor(PhD) or for the award of scientific degree "doctor of sciences"	30	-
	7. Scientific publication in publications that have been referenced and indexed in world-renowned scientific information databases	40/n or distributed in proportion based on the contribution protocol	129,91
	8. Scientific publication in non-refereed peer-reviewed journals or in edited collective volumes	20/n or distributed in proportion based on the contribution protocol	66,33
	9. Chapter publication in a collective monograph	10/n	6,42
D	Sum of indicators from 12 to 14	50	72
	12. Citations or reviews in scientific publications, referenced and indexed in world-renowned databases of scientific information or in monographs and collective volumes	10	70
	13. Citations in monographs and collective volumes with scientific review	3	-
	14. Quotations or reviews in non-refereed scientific peer-reviewed journals	2	2
	TOTAL:	minimum 400	424,66

What impresses you is the wide range and variety of tasks studied - from the development of technologies and sensors to microprocessor systems. In this regard, I will note that most of the problems addressed by the applicant are interdisciplinary and, as a rule, require collaboration with technologists, chemists, microbiologists and other specialists. I assume that in the overall development, his co-authors are from this category of specialists.

The distribution of scientific papers by relevant headings, at home and abroad, is as follows:

Type of scientific work	Number	% share	Publication #
Monographs	1	3,8%	26
Book chapter	2	7,7%	2, 23
Articles	11	42,3%	
- Published abroad	5	19,2%	1,3,19,20,21
- Published in Bulgaria	6	23,1%	9,10,14,22,24,25
Reports	12	46,2%	
- report presented abroad	6	23,1%	4,5,8,11,12,16
- presented at international conferences in Bulgaria	4	15,4%	6,7,13,15
- presented at national conferences in Bulgaria	2	7,7%	17,18
Total:	26	100%	1 ÷ 26

The monograph [26] and 4 publications [22 ÷ 25] are in Bulgarian. English was used as the primary language for publication - 21 publications [1 ÷ 21].

2. Brief biographical information

From the CV presented, the professional development of Chief Assist. Dr. Sotir Ivanov Sotirov. He was born in 1977. in Plovdiv. Bachelor's Degree in Higher Education (QC) at the Paisii Hilendarski University of Plovdiv (2003), majoring in Engineering Physics, followed by a Master's Degree in Electronic and Laser Engineering the same university (2006). After completing a doctoral program at the PS, the candidate successfully defended in 2015. thesis on "Impulse laser deposition of organic dyes and study of the resulting thin layers".

See Prof. Dr. Sotir Sotirov has 13 years of work experience, of which 7.5 years of pedagogical experience at PU. Since 2015 he is the chief assistant in the department "ECIT" at the Faculty of Physics and Technology of the University of Plovdiv. All the facts of the professional profile and development of the applicant as an expert, teacher and researcher are directly related to the professional direction of the competition procedure.

3. General characteristics of the applicant's activities

Assessment of the candidate's educational and pedagogical activity

In accordance with the Certificate (ex. №U-1632 / 20.03.2019) of the Faculty of Physics and Technology, it is certified that a teaching load of at least 120 hours of lectures has been secured for the academic year of Assoc. Sotir Sotirov. During the academic year, the candidate delivers lectures in the following subjects: Analog Circuit Engineering (60 hours), Digital Circuit Engineering (30 hours), Optoelectronics (30 hours) and Electrical Engineering and Electronics (45 hours). All the listed disciplines are in the field and problems of the professional field 5.2. Electrical engineering, electronics and automation. The conclusion is that the requirements of Art. The teaching experience of Chief Assist. Sotir Sotirov speaks unequivocally about the experience gained in the educational activity. I accept that the pedagogical activity of the applicant in all its aspects is of the necessary quality and sufficient in volume for the purposes of the competition.

Evaluation of the applicant's scientific and applied scientific activity

The works with which the applicant participates in the competition are the product of active and consistent research work in the period 2013 - 2019. Five of the publications are in Class A issues indexed in the world databases. As explained above, the applicant complies with the science-metric

indicators of the PPZRASRB and the Regulations for Occupation of Academic Posts of the PU. The quantitative indicators of the criteria for occupying the post of associate professor are fulfilled. The candidate presented a monographic work on the topic: "Computer Measurements of Physical Quantities" (ISBN 978-619-7536-00-3) with a volume of 170 pages and a bibliography of 75 titles. It is peer-reviewed and meets the requirements for a monograph. It systematizes the researches and results of the author in the creation of measuring instruments by means of microprocessor and computer technique. The main theoretical and practical aspects of the design and construction of computerized measurement systems are presented. The applicant's monographic work can be used in the research work of students, doctoral students and specialists in the design and construction of highly efficient measuring devices and systems. The contributions to it can be considered in two aspects: theoretical prerequisites for the current state of the problems under consideration and the author's own developments and studies.

Contributions (scientific, applied, applied) and citations

The applicant has submitted his own assessment of his contributions. The reviewer generally accepts the submission of contributions and applications of the results obtained. According to the reviewer, the claims for contributions can be summarized in more compact groups, in addition to thematic focus, as well as in scientific, scientifically applied and applied aspect. In the form presented in this way, the report has the form of 9 extended summaries (type - self-review) of separate thematically published publications.

I accept that the first five contribution claims are scientifically applied. In summary, the scientifically applied contributions are the created technologies for pulsed laser deposition, a proposed new type of sensor, characterization and production of polyelectrolyte multilayer polymer structures.

In the contributions from 6 to 9, which I find applicable, the measurement microprocessor systems are essential.

The comprehensive substantive analysis of Sotir Sotirov's scientific production gives me reason to believe that the authenticity of the contributions is undoubted and definitely his personal matter.

From the information provided for the period 2018 8 citations of the candidate's works were established, 7 of which were abroad and 1 in Bulgaria. Seven citations are in refereed journals and one in non-refereed journals (journal in Turkey). The analysis of the citations undoubtedly indicates an interest in the applicant's research results and is proof that he / she is well known among the professional community and the academic environment.

The applicant has confirmed his / her participation in 5 research projects, one of which is European (under FP 7 program), one is national (the national research fund under the Ministry of Education and Science) and three are internal to the PU "Paisii Hilendarski". It should be noted that although the requirements of the national scientometric criteria for indicator E are not obligatory for participation in the competition for the academic position of "associate professor", then under points 18/19 (Participation in a national / international scientific or educational project) the applicant has achieved points. is a significant contribution um shown by the applicant research.

The submitted materials do not contain data on implemented developments, obtained economic effect, patents, etc.

4. Assessment of the applicant's personal contribution

The applicant has submitted 3 individual publications. The remaining publications are collective, with 4 of them [5,13 ÷ 15] Sotirov being the first author, and 9 publishing the second author [11,12,17 ÷ 23]. As there is no separation protocol in the materials, I accept the participation of each of the co-authors in carrying out the research and writing the publications as equivalent. From the publications it can be concluded that Dr. Sotir Sotirov has been actively involved in several scientific problems, one of which he summarized independently in monograph work.

The works are of scientific and applied character. Given the field in which the applicant works, I find this quite natural - with the existing sufficiently well-developed theoretical framework, the possibilities for adapting it to the specific requirements of the relevant technologies are still poorly understood. Thus, the major efforts of many research teams focus not on seeking new theoretical approaches, but on the rational use of existing ones to solve specific problems. This is most often done experimentally, through a comparative analysis of different assessment methods and criteria, which requires the development of a specific experimental basis and the involvement of professionals from different professional backgrounds. This also explains the collective approach to these tasks. That is why the works of the candidate are for the most part collective.

The analysis of the applicant's self-assessment of the applicant's contributions gives me reason to believe that they are his own business and merit.

5. Critical notes and recommendations

I have no critical material comments on the competition materials. They are properly presented and structured. In some of the field articles, the style of the exhibit can be improved. More material could have been provided on the applicant's teaching and teaching activities.

In this line of thought, my next remarks are advisable:

- There is no well-formulated summary claim in the contributions submitted, but statements and results from individual publications or groups of publications are outlined. His personal contribution to collective publications can also be difficult to distinguish.
- To deepen its theoretical research and innovation activity in applied aspect, including in the context of the developed ideas for the analysis of spectral characteristics and their reproduction with a portable mini-spectrometer discussed in the monograph.
- The majority of the candidate's work is in English, which is due to the desire to seek wider expression in international scientific periodicals. Some of the topics of Sotir Sotirov are significant as issues and have some practical interest in it, so I recommend that he summarize his experience in independent publication in one of the reputed international magazines abroad. This will ensure better visibility of the results obtained, and a corresponding citation index would be an international performance appraisal.
- Although the national minimum requirements for the academic position of associate professor do not define a requirement for teaching aids, there is traditionally an expectation from a candidate

- university lecturer. Experience gained by Chief Assist. Sotirov, as a teacher, should find a realization in the publishing of a textbook and / or a teaching tool in any of the disciplines he leads.

6. Personal impressions

I do not know Sotir Sotirov personally. My personal impressions are based solely on the applicant's materials and scientific output. They are definitely positive and give reason to believe that Chief Assist. Prof. Dr. Sotir Sotirov is a researcher with the necessary scientific and teaching qualifications for occupying the academic position of "Assistant Professor". After my detailed knowledge of the applicant's scientific output, I believe that his participation in this associate professor's competition is also proof of the positive development of his potential as a teacher and researcher.

Insofar as each review represents a kind of expert evaluation of a certain human activity and its results, in this case, the reviewer considers that the applicant has in-depth knowledge of the competition issues, self-study abilities and has obtained scientific and applied results corresponding to the modern achievements and of a secondary character.

CONCLUSION

The documents and materials presented by Sotir Sotirov meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (ZRASRB), the Regulations for the implementation of the ZRASRB and the corresponding Regulations of the PU "Paisii Hilendarski".

The results achieved by Sotir Sotirov in the educational and research activities fully comply with the specific requirements of the Faculty of Physics and Technology, adopted in connection with the Regulations of the PU for the application of ZRASRB.

The candidate submitted a sufficient number of scientific papers published after the materials used in the defense of the PhD. The applicant's works contain original scientific and applied contributions that have received international recognition as part of them and have been published in journals and scientific publications published by international academic publishers. Its theoretical developments have practical applicability, and some of them are likely to be oriented towards learning. Sotir Sotirov's scientific and teaching qualifications are beyond doubt.

After getting acquainted with the materials and scientific works presented in the competition, an analysis of their importance and the scientific and applied contributions contained therein, I find it justifiable to give my **positive assessment** and to recommend to the Faculty Board of the Faculty of Physics and Technology to give the academic position **Associate professor of Sotir Sotirov** in professional field 5.2. Electrical Engineering, Electronics and Automatics (Electronic Circuit Theory and Electronic Circuitry).

08/16/2019

Reviewer:
(Prof. DSc.-Eng. Chavdar Damyanov)