

REVIEW

by Assoc. Prof. Todor Dimitrov Ganchev, PhD,

of the scientific publications submitted in fulfilment of the national criteria for
for tenure position "Professor" in the professional field
"5.2. Electrical Engineering, Electronics and Automation",
specialty: "Electronics",
a competition declared in the State Gazette no.38 on 10.05.2019.

Applicant: Assoc. Prof. Anton Slavchev Georgiev, DSc.

1. General provisions and biographical data

The vacant tenure position "Professor" was opened at a regular meeting of the Department of Electronics and Microelectronics (ETM), protocol №7 of 15.01.2019, reconfirmed with decision at a meeting of the Faculty of Computer Engineering and Automation (FITA) on 21.01.2019, and subsequently during regular meeting of the Academic Council of TU Varna (protocol №41/22 .04.2019). The only applicant is Assoc. Prof. Anton Slavchev Georgiev, DSc. After examination of his application package, he was admitted to the competition.

In brief, Anton Georgiev has completed his higher education at the Higher Mechanical and Electrical Engineering Institute (VMII) - Varna, majoring in Communication Technology (CT). He earned the Diploma Engineer degree in Electrical Engineering from the Faculty of Electronics in 1986. During the period 1988-2004, he served as an Assistant Professor, Senior Assistant Professor, and Principal Assistant Professor at the Faculty of Electronics, Technical University of Varna. In 1999, he moved from department of CT to department of ETM. Since May 2004 he is an Associate Professor at the department of ETM.

Anton Georgiev acquired the PhD degree in "Communication Networks and Systems" in year 1994, and subsequently the "Doctor of Technical Sciences" (DSc) degree in 2016 with a dissertation thesis "Development, research and analysis of new opportunities for increased operational reliability of electronic equipment."

He has held the administrative positions "Head of Training Coordination Department" of TU-Varna (2015-2019) and "Vice-Dean of the Faculty of Electronics" (2011-2015).

2. General description of the application materials

In the competition for the vacant tenure position "Professor", Assoc. Prof. Georgiev presents a monograph (2019), a book published on the basis of a dissertation thesis (2013), and a total of 54 other publications. Among these 12 are indexed and 4 are expected to be indexed in SCOPUS. An inquiry in SCOPUS, done on 25.09.2019, has shown 13 publications. The list of non-indexed publications consists of 38 titles. In addition, the applicant submitted list with three academic textbooks and 12 teaching materials supporting laboratory exercises, evaluation test, etc. In

accordance with the requirements, the applicant provided lists of publications submitted for the acquisition of his "Doctor of Technical Sciences" degree (51 publications), for acquiring the academic position "Associate Professor" (23 publications), and for earning his PhD degree (5 publications).

After a check of the submitted lists of publications, I **accept for review 15** of the 16 publications in SCOPUS. This is because publication No.7 in the application for tenure position "Professor" has already been used in the competition for acquisition of his DSc degree – publication No. 51 in that list. The 38 non-indexed publications I accept according to the list provided.

In category "D12" "Citations in SCOPUS" of the application materials are listed 29 citations. Excluding the citations from all doctoral students of Assoc. Prof. Georgiev and the internal citations for TU-Varna, **I take into account a total of 11 citations.** Thereof, **I respect 7, which are visible in SCOPUS** on 25.09.2019. I regard the other 4 as citations in publications non-indexed in SCOPUS.

In the list "D12" "2. Reviews in scientific journals" **I do not respect** the scoring of 24 reviews (240 pts) since these are reviews, prepared by the applicant and do not refer to published reviews of his work. I do not respect the scoring of reviews of textbooks, teaching materials and projects because these reviews are made by the applicant, and are irrelevant to the category "published reviews" of his work.

Based on the submitted list with 70 citations in non-indexed publications, I respect **6 citations in publications** by independent authors. The rest (64) are citations by his PhD students or are internal for TU-Varna citations.

On the list provided in compliance with the indicator "D14" "Additional information on citations" should be noted, that these are **citations of USA patents belonging to another author, Anton Georgiev Georgiev, who works in the field of computer science.** His name and surname is the namesake to Assoc. Prof. **Anton Slavchev Georgiev**, DSc. In this regard, the evidence submitted by the applicant Assoc. Prof. Georgiev, namely the Google Scholar notifications, were received because the Google Scholar profile of Assoc. Prof. Georgiev includes publications of other authors which are his namesakes.

The candidate supervised one PhD student -- Toncho Papanchev (Pr. Assist. Prof. at Dept. ETM), who successfully defended his PhD Degree.

Regarding the indicator "E 18" "Participation in national scientific or educational project", the applicant has submitted a list of 15 projects. Among these, 7 are internal projects of the Technical University of Varna with a targeted allocation of funding, and therefore do not fall under the category national. The other 5 are general education-related to student internships and the ERASMUS program. After all, 3 of these 15 projects implemented in the period 1989-1991, while the candidate was a full-time doctoral student at TU-Sofia, are relevant to the topic of the current tenure competition.

Under the indicator "E19" "Participation in an International or Educational Project", the applicant provides a list of 14 titles that are essentially public discussions in ResearchGate's forums. **These 14 titles, by their meaning and implementation cannot be associated with international research projects**, funded by the European Commission or the scientific funds of

other countries. Therefore, **I do not respect the claims of the applicant for participation in international projects.**

A comparison of the application materials presented in fulfilment of the minimal national and institutional requirements for tenure position "professor" in thematic area Technical Science, shows the following:

Indicator A: Existence of a dissertation for the awarding of the PhD Degree.

Number of points = 50 (required under indicator "A" - 50);

Indicator B3 : A monograph on "Reliability of Electronic Products" is presented .

Number of points = 100 (required by group of indicators "B" - 100);

Indicator G6: A book, entitled "A New Concept for Improving the Reliability of Electronic Systems", based on a dissertation thesis is presented.

Number of points = 30;

Indicator G7: After examining the submitted lists, I accept for review 15 of the 16 publications indexed in SCOPUS. As said above, *Publication No. 7 from the list submitted for participation in the competition for tenure position "Professor" has already been used in the competition for acquisition of the Doctorate of Technical Sciences degree – cf. the corresponding list No. 51.*

Number of points = 172.7;

Indicator G8: Accepted for peer review are 38 scientific publications non-indexed in Scopus.

Number of points = 298;

Total number of points **per group of indicators "G" = 500.7 (required - 200) ;**

Indicator E12: Citations in scientific publications of independent authors, referenced in world-wide scientific information databases -- I regard 7 citations in publications by independent authors, visible in SCOPUS (* 10 points) and 4 other non-indexed in SCOPUS publications (* 3 points).

Number of points = 82;

Indicator E13: Citations in Monographs and Proceedings with scientific review -- I regard 6 citations in the publications written by independent authors.

Number of points = 18;

Total number of points **per indicator group "E" = 100 (required - 100);**

Indicator E16: Acquired degree "Doctor of Technical Science"

Number of points = 40;

Indicator E 17: Supervision of a successfully graduated PhD student.

Number of points = 40;

Indicator E18: Participation in a National Science or Educational Project – I regard 8 out of 15 items.

Number of points = 80;

Indicator E20: Leadership of a national scientific or educational project - I count as such 4 projects funded specifically by TU-Varna and one by DIKS INTERTRADE .

Number of points = 100;

Indicator E22: Funds raised by the applicant-led projects -- I respect the claim.

Number of points = 3;

Indicator E23: University textbook published -- 3 items.

Number of points = 73.3;

Indicator E24: Published university manuals and teaching materials -- 12 items

Number of points = 185;

Total score for E group = 521.3 (required -- 150);

Indicator J: The number of lectures delivered at the Technical University of Varna in the last three years -- 362 hours.

Number of points = 362 (required by indicator "J" - 120);

Table . Implementation of the requirements for acquisition tenure position "Professor" in groups of indicators for the scientific area "5 . Technical Sciences "

A set of metrics	Content by indicators	Minimum requirements for the acquisition of "Professor"	Points Assoc. Prof. Georgiev
A	Indicator 1	50	50
Б-“NA”	Indicator 2	---	--- (100)
B	Indicator 3 or 4	100	100
G	Amount of performance from 5 to 11	200	500.7
D	Amount of indicators from 12 to 15	100	100
E	Amount of indicators from 16 to 28	150	521.3
J	Indicator 29	120	362
	Total by all indicators	720	1634

3. General description of research and applied research activity of the applicant

Most contributions of the applicant are in the categories scientific developments and applied research. I acknowledge that the publications submitted for the competition reflect a significant amount of research and applied research activities. A summary of the contributions is available in section 5 of this review.

The participation of Assoc. Prof. Georgiev in scientific juries, in the editorial boards of a number of national scientific events and forums, and his recognition at a number of universities in Bulgaria, I consider as evidence of his authority in the field of Electronics, concerning the study of the reliability of electronic equipment.

4. Assessment of the pedagogical activity of the applicant

The pedagogical activity of the applicant covers a period of over 30 years – starting from his appointment as an Assistant professor at the department of Communication Technology, TU-

Varna until now. According to the submitted list, the applicant has conducted 362 hours of lectures over the last three years. This teaching load covers 10 disciplines included in the curriculum of the Bachelor students of 10 specialties in two faculties -- FITA and EF.

The 3 textbooks and 12 teaching materials published on the subject of this competition is an exceptional achievement of the applicant in the field of pedagogical activity, and is an excellent attestation for his work as a educator!

5. Major scientific and applied contributions

I accept the formulations of the scientific and applied research contributions, which the applicant presented, in a summary of his publications related to indicators B3, G6, G7, and G8. I acknowledge that the publications presented in the competition reflect a significant amount of research and applied research activities. In general, the author's contributions can be characterized as:

- Investigation of the reliability of electronic equipment and the potentials for increasing operational reliability; Methods based on queuing theory have been developed;
- Analyzes of the design parameters affecting the operating modes and the electrical parameters of various elements and units of electronic equipment. Methods for improving the servicing of equipment are proposed.

These contributions can be categorized as: proving with new tools the already existing theories and hypotheses and creating new methods for analysis and improved prediction of operational reliability.

Refereeing to the composition of the coauthor teams for the majority of publications, my personal impression is that the applicant has significant contribution to the published results.

6. Significance of contributions to science and practice

As to the significance of the contributions formulated in the applicant's monograph and other publications, I can only judge indirectly:

- (1) it is surprising that the large number of publications with practical focus, in various application areas (communications, radar, power supply, etc.) have not led to the implementation or measurable practical benefits of national or international research projects, patents, utility models, or collaborations with the industry.
- (2) it is surprising that there is a great disparity between the number of visits to the profile of the candidate in ResearchGate (over 180 000 views of over 180 registered publications) and the relatively small number citations (114). As a matter of fact, the major part these citations are from the PhD students of the applicant or other colleagues of TU-Varna.

7. Critical notes and recommendations

The materials provided by the applicant contain inaccuracies and in many cases an incorrect presentation of facts:

- Duplication of a publication between the lists for the acquisition of "Doctor of Technical Sciences" and these submitted in the competition for tenure position "Professor" .
- The submitted list of citations includes namesake author, especially those related to USA patents.

- The professional profiles of the applicant in Google Scholar include publications and citations, which belong to other authors, namesakes of the applicant.
- In the enclosed lists of citations there is a large number of citations from his PhD students, and other colleagues from TU-Varna,
- The submitted list with participations in international projects does not contain any research project funded by the EC or the scientific funds of another country.

In addition, the curation of materials is extremely inappropriate for searching and fact-checking. Electronic copies of the application materials were not provided.

I have a number of recommendations to the applicant. In short, the career development of the applicant will benefit if he would intentionally put some efforts towards:

- **implementation in practice** of the achievements and developments reported in his publications. In this direction, collaborations with companies manufacturers of electronic equipment shall be developed.
- **gaining experience with research projects** through active participation in national and international projects. In this regard, it is recommended that the applicant develop personal capacity to raise research funding beyond the funds reserved by TU-Varna.
- **earning an international recognition** for his research through publications in scientific journals with Thomson Reuters impact factor.
- **increasing the share of publications in indexed databases** (SCOPUS, WoS), in order to support the promotion of TU-Varna in the academic ranking systems and to contribute more to the accreditation of the TU-Varna.

8. The personal impressions and opinion of the reviewer

I know the applicant in person as we have worked together in the department ETM for some years. Subsequently, while he held the administrative position Head of Training Coordination Department at TU-Varna, he remained in the focus of attention. In this connection, I can certify, that Assoc. Prof. Anton Georgiev, DSc has proven his high performance and energy, his durable ambition and ingenuity in solving problems of varied nature.

Admiration worthy efforts for the active publication of textbooks for the large number of disciplines, which he taught. His productivity as an author of publications is undeniable and is among the highest in TU-Varna.

The administrative and organizational capacity of Assoc. Prof. Georgiev were noted and rated by his colleagues, as a result of which he was appointed for administrative functions, such as "Vice-Dean of Teaching Coordination" at the Faculty of Electronics and "Head of Training Coordination Department" of TU-Varna.

CONCLUSION

The presented application materials allow for an objective and multifaceted assessment of the professional expertise and experience of Assoc. Prof. Anton Georgiev. The considerable publication activity and the large number of textbooks are evidence of purposefulness of the applicant and efforts, which makes the promotion and transfer of knowledge and skills to PhD students and Bachelor students. My doubts with respect to the qualification of the applicant are

associated with obvious deficits in his development as associate professor – the lack of efforts to attract funding from national and international research projects and the apparent absence of implementations in practice of his research.

At the same time, the materials presented with this application comply with the national requirements and with the regulations of the Technical University of Varna for tenure position "Professor". The minimum requirements are met, and for two indicators are significantly outperformed. The latter allows me to recommend to the Scientific Panel to support the elevation of the applicant Assoc. Prof. Anton Slavchev Georgiev, DSc., to tenured position "Professor" in the professional area: 5.2 "Electrical Engineering, Electronics and Automation", in scientific field "Electronization".

Date : 30 .09.2019

Reviewer : _____

/ Assoc. Prof. Todor Ganchev /