

STATEMENT

regarding a contest for obtaining an academic position “Professor”
in the professional field 5.2. “Electrical engineering, electronics and automation”
in the scientific specialty “Electrotechnologies”

The competition is announced in State Gazette (SG) 93/26.11.2019

Candidate: Assoc. prof. Bohos Rupen Aprahamian, PhD

Member of the scientific jury: Prof. Chavdar Iliev Alexandrov, PhD

1. General characteristic of the Candidate’s research and scientific applied activity

The candidate for participation in the competition for the appointment to an academic position "Professor" in the Department of “Electrical engineering and electrotechnologies” at the Technical University - Varna has graduated specialty "Electrical machinery and apparatus" in the same university. After completing his PhD studies he defended his PhD thesis. The subject of the dissertation is "Development and investigation of surface heater elements on ceramic plates" in scientific specialty 02.04.13 "Electrotechnologies". The entire scientific research apart from the PhD thesis is also dedicated to the field of electrical engineering, electrical machinery and apparatus and electrotechnologies. The candidate is also included in the register of the academic staff at NACID. The scientific metrics for the PhD degree and for the academic position "Assoc. professor" are 83 pts and 715 pts respectively.

The candidate in the "Professor" competition participates with a monograph published with two co-authors and 38 publications, 9 of which were referenced in Scopus and WoS indexed conferences and journals and 29 publications in unrevised journals with scientific review or in edited collective volumes in the country. The list of scientific papers includes another 3 textbooks and 4 tutorials used by the candidate in his teaching activities. The total number of works used in the competition participation is 46. The candidate is a sole author of 3 publications and has indicated participation in 3 research projects with national funding.

A list of 33 quoted scientific works of the candidate is presented, including 13 citations in issues, indexed in Scopus, as well as 3 citations in revised journals with scientific review and 17 in unrevised journals with scientific review.

All of the candidate’s scientific works, representing his research and scientific applied activity are in the field of the competition and correspond to the requirements of the regulations as follows:

A – Indicator 1	50 points
B – Indicator 3	100 points
Г – Sum of Indicators 5 - 11	369,01 points
Д – Sum of Indicators 12 – 15	173 points
E – Sum of Indicators 16 – 28	368,34 points
Ж – Indicator 29	1355 points
Total (1060,35p. + 13556p.) / Minimum required (600p. + 120p.).	

2. Evaluation of the candidate’s pedagogical training and activities.

Bohos Aprahamian begins his researches and teaching activities in the Faculty of electrical engineering at TU - Varna in 1990. During the next years he works as a chief assistant professor and associate professor. At the date of the announcement of this competition, he is an associate professor in the department of electrical engineering and electrotechnologies and dean of the faculty. The attached documents show that over the years

he taught different subjects included in the curricula of the Faculty, of the Department in Dobrich as well as Foreign students' department of the University. The list is entirely in the field of electrical machinery, electrotechnologies, renewable sources of energy, including wind and photovoltaic systems, and solar power plants. Along with teaching, assoc. prof. Aprahamian is responsible for the development of the educational facilities necessary for providing the teaching process in the department as its head. The laboratory on Electrotechnologies has been built and managed with his active participation. He is an author of 3 textbooks, 4 tutorials and a number of teaching courses and syllabuses. The number of PhD students supervised by him is 9, and 3 of them have successfully defended their theses. All this shows that assoc. prof. B. Aprahamian has very good pedagogical training and experience in teaching activities.

3. Main scientific and scientifically applied contributions.

The contributions of the candidate research and pedagogical activities can be divided in groups as follows:

3.1. Contributions of predominantly scientific and scientifically applied character (in monograph and in works included in groups Г.7 and Г.8)

Technologies, methodologies and technological equipment for producing and examining of transient and corrosion resistance of contact rivets of electrical apparatus based on nano-structured coatings are developed;

Computer models, methods and technologies for theoretical and experimental studies in the area of electrical machinery and apparatus, including control by means of up-to-date information and communication technologies are proposed.

Using the proposed mathematical models and methods, implemented in particular applications in test benches and laboratory equipment, gives opportunities for studies, experiments and analysis, applicable in the engineering practice.

3.2. Contributions of predominantly applied character and implementations

Original electrical devices, protected under patent letters are developed for application in different fields of engineering practice.

Methodologies are created for investigation of new materials based on nano-technologies and different tests are conducted in order to validate the accuracy and efficiency of the developed models.

Different types of devices, test benches and testers applicable in the field of electrical engineering and electrotechnologies are created.

3.3. Methodological studies, textbooks and teaching aids

During the last years while working as lecturer in Technical University of Varna, candidate participates actively in development and improvement of methodologies and technologies for enhancement of the quality of higher education, of regulation documents and their implementation in teaching process. The results of this work can be promoted through development and accreditation of a doctoral program on „Electrotechnologies and nano-technologies in electrical engineering” as well as improvement of teaching facilities of the Faculty. Being the dean, assoc. prof. Aprahamian plays a leading role and has highest responsibilities in development and management of the laboratory on Electrotechnologies. The number of textbooks and tutorials, submitted for the competition is 7 and includes books on Electrical engineering and Electrical materials and elements, and an electronic book for distance learning on Electromechanical devices and systems in renewable sources of energy, as well as four tutorials, one of them written in English. Three PhD students, supervised by him have been successfully defended their PhD theses, another five are still working on their theses by using different forms of education. These facts are the best evidence for availability

of a successfully worked school for highly qualified young specialists in the field of different branches of the industry, i.e. power engineering, electrical engineering, transport, etc., and this merit goes to the candidate.

4. Significance of contributions to science and practice

From a theoretical point of view, the applicant's contributions relate to the development of technologies, methodologies and technical equipment for producing and examining of new materials, as well as computer models, methods and technologies for theoretical and experimental studies in the field of electrical machinery and control of electrical apparatus. The accuracy and workability of the theoretical developments has been confirmed by a large amount of practical results.

In applicable aspect, the contributions are expressed in the development of various types of devices, test benches and testers with applications in the fields of electrotechnologies, electrical machinery and apparatus, but also in the education and training of future engineers in these fields.

In 3 of the papers proposed the candidate is a sole author, in 11 papers he participates with one co-author and in the others - with two or more co-authors. For the monograph candidate submits a sharing protocol where his share is 55%. For other cooperative publications, no documents have been submitted for shares of the co-authors, so I believe that the co-authors' participation is on an equal footing. The works are dominated by researches in the field of electrical engineering, electrical machinery and apparatus and electrotechnologies, which are entirely in the field of the candidate's scientific interests. This gives me a reason to believe that the main contributions to the works submitted for the competition are his work.

5. Critical remarks and recommendations

The publication activity of the candidate corresponds to the regulations both quantitatively and as content. It is obvious however, that the issues in which his works are published are mainly conference proceedings and university issues. It would be a good idea for the candidate's future to be focused on more authoritative indexed editions, and in periodicals abroad, which would also lead to a higher level of impact and citation.

It is also noteworthy that the applicant is presenting participations in only three projects with funding at national level and none participations in international projects. In this regard, I would recommend the candidate to look for more opportunities for projects with similar institutions not only in the country but also abroad.

CONCLUSION

For the purpose of the competition assoc. prof. Bohos Aprahamian has presented a considerable amount of scientific production aimed at solving real problems in the field of electrical engineering, electrical machinery and apparatus, and electrotechnologies. The presented works are of high theoretical level and meet the requirements of the regulations. The candidate also has the necessary pedagogical experience, which gives me enough reason to recommend him for the academic position "Professor" in the Department of Electrical engineering and electrotechnologies at the Faculty of Electrical engineering of the Technical University - Varna in the professional field 5.2. "Electrical engineering, electronics and automation", specialty "Electrotechnologies".

05.03.2020

MEMBER OF THE JURY:

/Prof. PhD Eng. Ch. Alexandrov/