

OPINION

By Nikolay Dimitrov Menkov, DSc

Professor in department Process Engineering, University of Food Technologies, Plovdiv

Of the materials submitted for participation in the competition to occupy the academic position
“Associated Professor” at University of Plovdiv Paisii Hilendarski
by field of higher education 5. Technical Sciences, professional direction
5.1 Mechanical engineering (Automation of engineering work and
automated design systems)

The competition for "associate professor" has been announced for the needs of the department "Mechanical Engineering and Transport" at the Faculty of Physics and Technology of Plovdiv University "Paisiy Hilendarski" (PU) in the State Gazette, 32/09.04.2024 and on the PU website. The only candidate for participation in the competition is Emil Georgiev Velev PhD from the same department.

1. General presentation of the procedure and the candidate

The candidate Dr. Velev, participating in the above-described competition, submitted a set of materials in electronic form, including: one published monograph with ISBN 978-619-236-514-1 and two reviewers; 21 scientific works other than those included in the doctoral dissertation, classified according to the requirements of the RSARB; list of noticed citations; evidence for participation in research projects; a curriculum vitae proving significant experience in the specialty; proof of academic commitment as well as all other mandatory attributes. I believe that all submitted materials are within the scope of the competition. I do not know Dr. Emil Velev personally and I have no joint publications and joint research with him.

2. General characteristics of the candidate activity

From the applicant's curriculum vitae, it appears that he has more than 13 years of work experience in the field of mechanical engineering. In 2015, he defended his PhD in the scientific specialty "Technology of Mechanical Engineering". From 2016 until now, he is a teacher (assistant and chief assistant) in the Department of Mechanical Engineering and Transport at the PU.2.1
Учебно-педагогическа дейност

2.1 Educational and pedagogical activity

The study load report of Dr. Velev shows that the candidate teaches (has taught) lecture courses in four disciplines ("Automation of mechanical engineering production", "Programming and adjustment of CNC machine tools", "Heat treatment of metals", " Processing of metals through plastic deformation"), exercises in seven disciplines in the areas of Technology of metal-cutting tools and machines and Automotive engineering, as well as educational practices. I believe that all the lectures, exercises and practices given by the candidate are related to the current competition. Obviously, Dr. Velev is actively involved in the pedagogical activities of the department, which is

clearly evident from his participation in the development of a significant number of study plans and curricula for the "Bachelor" and "Master" degree for the needs of the specialties taught by the department. A good impression is made by the candidate's participation in several international educational programs related to the improvement of engineering education approaches. Това заедно с преминалия курс SolidWorks Essentials, доказва стремежа му към повишаване на квалификацията. Dr. Velev's participation in the project "An innovative model for modernization of higher education by creating an academic ecosystem" deserves special attention, consisting of conducting classes at the University of Craiova, Romania. The above gives me reason to believe that Dr. Emil Velev is a built and competent teacher with a solid place in the Department of Mechanical Engineering and Transport of the PU. In the materials I received, I did not find any textbooks or teaching aids with authorship of the candidate. If such are really missing, this is a problem that Dr. Velev must promptly solve.

2.2 Scientific activity

The presented evidence of Dr. Velev's scientific activity includes one monograph, 21 publications, a list of citations, evidence of participation in research projects.

The monograph has a volume of 190 pages and is divided into 9 chapters. I believe that the content of the monograph is up-to-date and of significant practical benefit to specialists working with today's current additive technologies. For me personally, as a non-specialist in these technologies, but actively working with SolidWorks and Autocad, it was of extreme interest. I was impressed by the style of writing and summarizing, as well as the clearly presented graphic material. However, I believe that the monograph loses some of its added value since it is not supported by its own published work on the issue.

Of the candidate's 21 scientific publications presented, twelve are in Bulgarian and the rest in English. Three publications in English are in editions indexed in Scopus. Three of the publications are in print in a PU journal (I did not find a document confirming acceptance for publication). Some of the materials are published reports from scientific conferences, and the rest are publications in scientific journals. In ten publications the candidate is the sole author, and in the rest he is the second or subsequent author. This gives me reason to believe that Dr. Velev is the initiator and active participant of most developments. I evaluate the candidate's contributions as scientific and applied. Scientific-applied contributions in which there are original solutions to particular problems with results valid for a group of practical problems: the developed methodology for the construction of a gerotor hydromachine and the deciphering of a gerotor gear pair. Applied contributions, in which solutions to problems with immediate practical applicability are found: the proposed new types of gear pairs for gerotor hydromotors, as well as a methodology for their restoration.

From the list of citations, it is clear that 15 scientific works of Dr. Velev have found an echo in 19 citations. Evidence of participation in two research projects is provided. I consider both the number of indexed publications and the participation in scientific collectives to be insufficient. It is noteworthy that none of the three publications in indexed editions are cited in Scopus or in WoS. In fact, the majority of citations are from authors who are colleagues of the candidate. For this reason, I do not consider that Dr. Velev's research has found a wide international response. On the other hand, it is clear from the attached "Report on fulfillment of the minimum national requirements" that the applicant formally exceeds these minimum requirements. The above shows the existence of deficiencies in the ŽARASRB and its regulations. The candidate rightly and justifiably takes advantage of these disadvantages.

3. Critical remarks and recommendations

- Intensive participation in research collectives, including interdisciplinary and international ones;
- Increasing publication activity with a focus on quality publications in reputable publications;
- Publishing study aids and textbooks for students.

CONCLUSION

After familiarizing myself with the submitted documents for the competition and an analysis of the candidate's educational, pedagogical and scientific activities, I conclude that Dr. Velev's production meets the requirements of ZRASRB, the Regulations for its application and the Regulations for the development of the academic staff of the PU. I give my positive assessment and recommend the scientific jury to propose ch. assistant professor Emil Georgiev Velev to be elected to the academic position of "associate professor" in the department of "Mechanical Engineering and Transport" at the Faculty of Physics and Technology "Paisiy Hilendarski" PU in the field of higher education 5. Technical Sciences; professional direction 5.1 Mechanical engineering (Automation of engineering work and automated design systems).

20.08.2024 г.

Member of the Scientific Jury:

Prof. Nikolay Menkov, DSc