

## STANDPOINT

for participation in a competition for an academic position “Associate professor” in

**Professional field:** 5.13 General engineering

**Scientific specialty:** „Engineering methods for modeling and analysis“

**Posted at DV:** Issue 53/20.06.2023

**Applicant:** Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng.

**Member of the scientific jury:** Assoc. Prof. Tanya Avramova, PhD, Eng.

### 1. A general characteristic of the applicant's research and development activities

For participation in the competition are presented 1 habilitation thesis (monograph), 44 scientific publications, 5 teaching aids, 5 scientific publications in connection with the habilitation thesis and 1 abstract for the acquisition of the ESD "Doctor". The presented scientific publications (in scientific journals and international conferences in Bulgaria and abroad) are shown in detail in Annex № 10. They are distributed as follows:

- Indicator [B] – Habilitation thesis (monograph) - 1 pc.;
- Indicator [Г] – Scientific publications – 44 pcs.;
- Indicator [Y] – Teaching aids – 5 pcs.;
- Indicator [X] – Publications in connection with the habilitation thesis – 5 pcs..

The distribution of the scientific works of the applicant in the competition for the academic position of associate professor is as follows:

- Independent author is in 4 works ([Г8.7], [8.19], [8.30], [8.31]);
- First author in 13 works ([Г7.9], [Г8.1], [Г8.2], [Г8.5], [Г8.8], [Г8.11], [Г8.13], [Г8.18], [Г8.20], [Г8.23], [Г8.28], [Г8.29], [Г8.34]);
- Second author in 8 works ([Г7.1], [Г7.6], [Г7.8], [Г7.10], [Г8.3], [Г8.4], [Г8.6], [Г8.9], [Г8.10], [Г8.12], [Г8.14], [Г8.15], [Г8.16], [Г8.17], [Г8.21], [Г8.22], [Г8.27], [Г8.32],);
- Third author in 2 works ([Г7.4], ([Г7.5], [Г7.7], [Г8.24], [Г8.25], [Г8.26]);
- Fourth author in 1 work ([Г7.3]);
- Fifth author in 2 works ([Г7.2]).

C According to the languages of publication, the applicant submits:

- Publications in English - 17 pcs (from [Г7.1] up to [Г7.10], [8.18], [8.21], [8.30], [8.31], [8.32], [8.33], [8.34]);
- Publications in Bulgarian – 27 pcs (from [8.1] up to [8.17], [8.19], [8.20], from [8.22] up to [8.29]).

There is an independent monograph entitled „Automation of engineering work. Automated design and analysis“ – [B3]. The monograph is 234 pages long and was published by „Gea Print“ Varna in 2021, ISBN 978-619-184-047-2.

Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. fully meets the minimum national requirements for all groups of indicators for AP "Associate Professor". The total number of points according to the minimum requirements is 430, and the applicant has 1511,82 points. The excess is approximately 3,5 times. The information on the implementation of the scientometric indicators for the applicant in the competition, Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. can be summarized by criteria as follows:

Group of indicators	Contents	Minimum requirements for acquisition of AP "Associate Professor"	Number of points of the applicant
A	Indicator 1	50	50
B	Indicator 2	-	-
B	Indicator 3 or 4	100	100



Group of indicators	Contents	Minimum requirements for acquisition of AP "Associate Professor"	Number of points of the applicant
Г	Sum of indicators from 5 to 11,	200	439,82
Д	Sum of indicators from 12 to 15	50	300
Е	Sum of indicators from 16 to 28,	-	110
Ж	Indicator 29	30	512
<b>Total</b>	Indicators from 1 to 29	<b>430</b>	<b>1511,82</b>

The applicant also shows significant research and applied activity. As can be seen from the attached list (Annex 11.6), the applicant in the period 2009-2023 has participated in 6 research projects – internal to TU-Varna, 1 infrastructure project, again internal to TU-Varna and 1 is under scientific research fund. Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. has also taken part in 3 educational projects, the financing of which is external to the university and co-financed by the European Social Fund.

Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. member of "Mechanical engineering and technologies" society at Territorial Organization of NTS-Varna.

## 2. Assessment of the pedagogical preparation and activity of the applicant

The applicant has participated in the development of 26 curricula in the field of 3D modeling, Basics of automated design in mechanical engineering, Electrical documentation, etc.

The applicant for associate professor has a significant teaching activity, for last 3 years has conducted over 500 lecture hours in Educational Qualification Degree "Bachelor" (Annex 11.1). Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. has given lectures and laboratory exercises in the following academic disciplines:

- Bachelor's degree - „Basics of automated design in mechanical engineering“, „3D modeling“, „Electrical documentation“, „Computer systems for mechanical engineering“, „Information technologies and systems“, „Engineering methods for modeling and analysis“, „Modeling of elements of the injection molding process“;
- Master's degree - „3D modeling“, „Three-dimensional modeling“, „Visualization modeling of technological objects“, „Computer Engineering Analysis“, „Automation of design in mechanical engineering“;
- Bachelor's degree education in English.

Under the leadership of Konsulova-Bakalova, PhD, Eng. 29 graduates defended their degrees, and she was a reviewer of 40 diploma theses. She is a consultant to a doctoral student in the MTMT department (Annex 11.4).

One international mobility was carried out under the Erasmus program for training in Gotse Delchev, Shtip, North Macedonia, 2018.; 1 week – 5 days (12.03.2018 -16.03.2018) (Annex 11.7).

Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. has contributed to the enrichment of the software products of the MTMT department, and in 2009 a MITCalc software product was purchased for a scientific project of which she is the head (Annex 11.5).

The applicant has an active administrative activity in the department, which is visible from the submitted Annex 11.10.

## 3. Major scientific and applied science contributions

The presented contributions are divided into two groups:

- Contributions from habilitation thesis;
- Contributions from scientific publications.

I confirm all the contributions described by the candidate Konsulova-Bakalova, PhD, Eng. in the document "Habilitation extended author's reference for the contributions".

#### 4. Significance of contributions to science and practice

I evaluate as significant scientifically applied and applied contributions. They are enriching the theory and engineering practice in the field of the announced competition in the field of automation of engineering work.

The volume of citations submitted by the applicant and the fact that the majority of them are in the globally recognized databases Scopus and WoS, prove the recognition of the applicant by the scientific circles at home and abroad and confirm her scientific achievements.

They are fully complied with, having exceeded the quantitative indicators of the criteria for holding academic position "Associate Professor".

#### 5. Critical remarks and recommendations

I have no fundamental objections to the scientific works of the applicant.

Based on an analysis of the materials presented to me, I can make the following recommendations to Konsulova-Bakalova, PhD, Eng.:

- To concentrate her scientific work on a more limited number of scientific areas, which I believe will be beneficial for her to develop her scientific potential for the benefit of the department in which she is habilitating and would lead to an increase in the scientific contributions of her scientific activity;

- To think about the possibility of applying in a real production environment the scientific developments on which she works and publishes;

- To carry out international teaching specializations that would be useful to her in disseminating her scientific achievements and creating contacts that would lead to future joint developments with foreign teams.

#### CONCLUSION

*Based on my acquaintance with the presented scientific works, their significance and the scientific, scientific-applied and applied contributions contained in them, I find it reasonable to propose Assistant Professor Mariya Ivanova Konsulova-Bakalova, PhD, Eng. to take the academic position "Associate Professor" in in professional field 5.13 General engineering, specialty "Engineering methods for modeling and analysis".*

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17.11.2023

JURY MEMBER:

*(Assoc. Prof. Tanya Avramova, PhD, Eng.)*