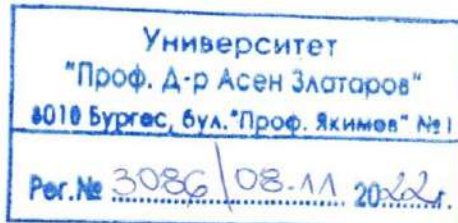


REVIEW



By Assoc. Prof. Eng. Polina Ilieva Milusheva-Mandadzhieva, PhD
University "Prof. Dr. Asen Zlatarov" – Burgas, Faculty of Technical sciences,
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Concerning: competition for the acquirement of the academic position of "Professor" in the field of higher education, professional field 5. Technical sciences, scientific specialty "02.01.25 – Machines and equipment for the chemical, oil, gas and oil refining industry", announced in State gazette – issue 45/17.06.2022

Position of the author of the opinion: member of the scientific jury for the occupation of the academic position of "Professor"

Reason for the elaboration of the opinion: Order № Rd-293/19.09.2022 of the Rector of the University "Prof. Dr. Asen Zlatarov" – Burgas

Candidate for the acquirement of the competitive academic position "Professor":

The candidate for the acquirement of the competitive academic position "Professor" is Assoc. Prof. Eng. Dimitar Rusev Rusev, PhD, lecturer at the Department of Electronics, electric engineering and machine engineering, Faculty of Technical sciences, University "Prof. Dr. Asen Zlatarov" - Burgas

The documents required for the estimation and reviewing were provided to me in electronic form and on paper. These documents were arranged according to the requirements of the LDASRB and the Rules for the terms and conditions for acquiring of academic positions at the University "Prof. Dr. Asen Zlatarov" – Burgas. The materials presented fully cover the topic of the competition and contain all the necessary information for the estimation. Their contents provide a possibility to make unambiguous assessment of the scientific research, applied research and lecturing activities of the applicant.

1. General information and biographic data

Assoc. Prof. Eng. Dimitar Rusev Rusev, PhD, has graduated the Moscow Institute of chemical engineering in 1985, specialty „Design of machines and equipment for the chemical industry“, with professional qualification of engineering designer.

In 1990 he successfully defended his thesis and obtained the educational and scientific degree of Philosophy doctor in the field of higher education, 5. Technical sciences, professional field 5.1. Machine engineering, scientific specialty „02.01.25 – Machines and equipment for the oil, gas and oil refining industries“, with scientific tutor Prof. DSc. Dimitar Tomov Mitev.

From 1990 to 1992 he was a research fellow III degree in Production and scientific research laboratory "Fluidized bed" at the University "Prof. Dr. Asen Zlatarov" – Burgas.

From 1992 to 1995 he was a deputy director of ZMM - Burgas.

In 1995, the applicant was appointed at the University "Prof. Dr. Asen Zlatarov" – Burgas as Chief assistant in the Department of "Machine engineering" (1995-2006) and since then he is an Assoc. professor in the Department of "Electronics, electric engineering and machine engineering".

He has been Director of the Technical college at the University for the periods from 2008 to 2012 and from 2020 till now.

Assoc. prof. Eng. Dimitar Rusev Rusev, PhD is a member of the editorial board of the international information and analytic journal „Crede Experto“, ISSN2312-1327 which is indexed in the international databases: eLIBRARY.RU, Ulrichsweb, Pubicon Science Index, Scientific Indexing Service, Research Bible, Inno Space, Journal Index, Universal Impact Factor, Scholarsteer, Academic Keys, Turk Egitim Indeksi etc. (Documents according to article 70(8)).

The autobiographical data attest for the active scientific research and applied science research work of the candidate and reveal his successful performance in a team.

2. General presentation of the materials for the competition

The materials submitted for the competition are properly prepared, neatly arranged and fully comply with the requirements of the Rules for the terms and conditions for acquiring scientific degrees and holding academic positions at the University “Prof. Dr. Asen Zlatarov” – Burgas.

For the competition, Assoc. prof. Eng. Dimitar Rusev Rusev, PhD presented 66 scientific publications, among which 16 are in journals referred and indexed in world known databases with scientific information (Scopus) (Indicator B4 – 10 items and Indicator G7 – 6 items) and 50 in non-referred journal with scientific reviewing (Indicator G*8).

Among all 66 publications, 31 are in English language, 35 in Bulgarian, the applicant is the single author of 8 publications and in 58 he is a co-author. Total of 29 works are published in Proceedings of conferences and are included in the National reference list of modern Bulgarian scientific journals with scientific reviewing (4 items abroad and 25 at international and national conferences held in Bulgaria).

Furthermore, among the submitted documents, an author’s abstract of the dissertation is presented (Indicator A1), a **monograph which is not marked as the main habilitation work** (Indicator G*5) and two text books – “Technical documentation” (2013, ISBN 978-954-8422-91-8) and „Machines and equipment in chemical industry“ electronic edition (2021, ISBN 978-619-91760-0-9) (Indicator E23).

Additionally, there are 65 citations found in scientific literature, among which according to Indicator D*12 - 59 citations and Indicator D*14 – 6 citations.

The candidate presented documents which certify that he has taken part in the team of 1 project financed by the European Social fund – project BG051PO001-3.I.09-0011 (item 9.2 of the supplied documents), 1 project financed by the National scientific program EPLUS, 5 projects with the Scientific research fund of the Ministry of Education and science and 7 university projects, 3 of which financed by the Grant system for competitive financing of scientific and artistic activities of the University “Prof. Dr. Asen Zlatarov” – Burgas where he is the head of the scientific team and 4 financed by the Scientific research sector of the University “Prof. Dr. Asen Zlatarov” – Burgas where he is a member of the scientific team (item 9.1 of the supplied documents).

The candidate has been acknowledged the author of three patents for invention: Reg. № 67400 B1/25.11.2021, Reg. № 66859 B1/29.03.2019 and Reg. № 67421 B1/15.03.2022 (Indicator E26), 1 patent application Reg. № BG/P/2022/113558 / 12.07.2022 and 1 application for useful model Reg. № BG/P/2022/5555 / 12.07.2022 to which resolution for registration has been issued with Reg. № 4308/22.08.2022 (Indicator E25), all published in the official bulletin of the Patent Institution.

For Indicator E17, the applicant submitted documents for three PhD successful defenses where he has been a co-tutor.

The total number of points by the groups of indicators corresponding to the documents provided by Assoc. prof. Eng. Dimitar Rusev Rusev, PhD is 1828,09 (Table 1) and it is significantly higher than the minimum national requirements and the requirements defined in the Regulations of the University “Prof. Dr. Asen Zlatarov”- Burgas.

**Table 1. Minimum required points by groups of indicators
For the academic position of "Professor"**

Field 5. Technical sciences, professional field 5.1. Machine engineering

Group of indicators content	National requirements	Requirements of the University	Assoc. prof. Eng. Dimitar Rusev, PhD
A Indicator 1	50	50	50
B Indicator 2	-	-	-
V Indicator 3 and 4	100	200	217
G Total of the indicators from 5 to 11	200	500	609,09
D Total of the indicators from 12 to 15	100	200	602
E Total of the indicators from 16 to 28 For a professor, the minimum number of points per indicator E17=60	150	200	350 (per indicator E17=60)
Total number of points	600	1150	1828,09

3. General characteristics of the scientific research and applied research work of the applicant

The main achievements and results obtained by the scientific research and applied research work of Assoc. prof. Eng. Dimitar Rusev Rusev, PhD are in the fields of design of machines and equipment, hydrodynamics, simulation studies of hydrodynamic and mechanical processes, deposition of surface coatings, energy efficiency and management, organization and optimization of the educational process. The studies cover wide spectrum of interdisciplinary fields. Major part of the research is of simulation and experimental nature because of the complexity of the processes studied which take place in the system. These studies of the candidate reveal his knowledge and experience in different fields – machine engineering, processes and equipment, hydrodynamics, energetics, mechanics, tribology, statistical processing and analysis of the results, etc.

In the list of contributions supplied, the information about the scientific and applied research studies of the candidate is structured clearly and in details and it is summarized in six main fields:

1. Design of machines and equipment and improvement of the energy efficiency and design of turbines for ORC installations;
2. Hydromechanics studies and optimization of mechanical constructions;
3. Deposition and study of the mechanical characteristics of surface coatings deposited onto metal and polymer substrates;
4. Simulation studies and optimization of mechanical constructions and tensile properties of deposited coatings;
5. Synthesis of new materials;
6. Management, organization and optimization of the educational process.

The scientific research and applied research contributions in each of these fields are described in detail.

4. Educational and lecturing activity

According to the provided documents about the lecturing activity of Assoc. prof. Eng. Dimitar Rusev Rusev, PhD he has had lectures and exercises with students from the educational and qualification degrees (EQD) Bachelor, EQD "Professional bachelor" and EQD "Master", which were educated in the Technical college, Faculty of technical sciences and Faculty of social sciences at the University "Prof. Dr. Asen Zlatarov" – Burgas. The total lecture hours are as follows: 2021/2022 – 814 h; 2020/2021 – 1069 h and 2019/2020 – 912 h.

The lecturing and pedagogical activity of the candidate are related to the elaboration and coaching of lecturing courses, seminars and practical exercises for EQDs Bachelor, Professional bachelor and Master, regular and extramural forms of education of the students at the University "Prof. Dr. Asen Zlatarov" – Burgas. During his last three years, Assoc. prof. Eng. Dimitar Rusev Rusev, PhD has elaborated 25 lecture courses and 2 video lecture courses and he has taken part in the development of 38 educational curricula for EQDs Bachelor, Professional bachelor and Master, regular and extramural forms of education.

The candidate is the single author of two published textbooks – „Technical documentation“ (2013, ISBN 978-954-8422-91-8) and „Machines and equipment in chemical industry“ electronic edition (2021, ISBN 978-619-91760-0-9).

5. Critical remarks and recommendations

I have not found irregularities in the documents provided by the candidate for participation in the competition. I have no critical remarks on both the essence and the technical preparation and submission of the materials. I hereby give my positive estimation for the overall scientific value of the publication activity of Assoc. prof. Eng. Dimitar Rusev Rusev, PhD.

I would like to recommend the candidate to direct his accumulated experience and scientific potential towards more active participation in national and international projects. I believe that the acquirement of the academic position of "Professor" will widen the opportunities for the candidate as scientist which is a prerequisite for successful team work with specialists from other universities and scientific institutions.

CONCLUSION

The candidate Assoc. prof. Eng. Dimitar Rusev Rusev, PhD fully complies with the minimum national scientometric requirements and the requirements according to the Regulations of the terms and conditions for acquiring of scientific degrees and holding academic positions in the University "Prof. Dr. Asen Zlatarov" – Burgas, for his acquirement of the academic position of "Professor".

On the basis of his scientific work, scientific interests, the educational load for the education of students and the results gained by the candidate, I deliver my opinion with complete conviction and I recommend the members of the honorable scientific jury to grant Assoc. prof. Eng. Dimitar Rusev Rusev, PhD the academic position of "Professor" in the field of higher education 5. Technical sciences, professional field 5.1. Machine engineering, scientific specialty „02.01.25 – Machines and equipment for the chemical, oil, gas and oil refining industries“.

Assoc. Prof. Polina Ilieva Milusheva-Mandadzhieva, PhD
02.11.2022