

POSITION

on competition for the appointment on the academic position
of "Associate Professor"
in the scientific speciality of „Analytical Chemistry (Instrumental analysis)",
Higher education field 4. Natural sciences, mathematics and informatics,
Professional field 4.2. Chemistry sciences,
for the needs of the Faculty of Natural Sciences at "Prof. D-r Assen Zlatarov" University – Burgas
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by

Assoc. Prof. Dr. Veselin Jordanov Kmetov,
dean of the Faculty of Chemistry at "Paisii Hilendarski" University of Plovdiv,
an external member of the Scientific Jury, according to the order №RD-36/09.02.21 of the Rector
of "Prof. D-r Assen Zlatarov" University – Burgas – Prof Dr. Magdalena Mitkova

The only candidate is Chief Assist. Prof. D-r Lenia-Nezaet de Brito Gonsalvesh-Musakova, lecturer at the
Chemistry Department of the FNS at the "Prof. D-r Assen Zlatarov" University – Burgas

Biographical data: Chief Assist. Prof. D-r Gonsalvesh-Musakova graduates Bachelor's in chemistry and Master's degree in *Modern spectroscopy and chromatography techniques for analysis* at University of Sofia "St. Kliment Ohridski" (2005). As result of a joint agreement between IOCCF-BAS and Hasselt University, Belgium (Laboratory of Analytical and Applied Chemistry) she obtained a PhD degree in 2012. The title of her dissertation is *Sulphur and organic sulphur alternations in biodesulphurized low rank coals* in the field of *Technology of natural and synthetic fuels*. In the concurs materials the dissertation is presented as 7 chapters written in English language with summary and conclusion in Bulgarian language. At the Hasstel University she has 23 months (in total duration) research visits including 6 months as a Post doc. Also, she has accomplished research visits at Sabanci University, Turkey and at Donetsk National Technical University, Ukraine.

The candidate's work experience began in 2005 at IOCCF-BAS, where she worked for over 10 years as a chemist, research associate III degree and Ch. Assistant Professor. In 2015 she entered the "Prof. Dr. As. Zlatarov" University - Burgas, initially as an Assistant and Chief Assistant Professor in CRL, and since 2019 as a member of the Department of Chemistry at the same university.

Scientific achievements: Although the above topic of the candidate's PhD dissertation is not in Analytical Chemistry field, the research covered modern instrumental methods of analysis such as "Temperature Programmed Atmospheric Pressure Reduction" (AP-TPR), associated with various detection systems including mass spectrometry (MS), potentiometry (Pot), thermal desorption-gas chromatography / mass spectrometry (TD-GC / MS). I find it important in this competition that the dissertation proposes a new method for quantitative determination of elemental sulphur in coal, including extraction with CHCl_3 and subsequent HPLC analysis with a reversed phase C18 column.

In this competition, Ch. Assistant Professor Dr. L. Gonsalvesh-Musakova participates with a total of 43 scientific publications, 8 of which are included in her dissertation for the acquisition of a "Doctor" degree. Two of her publications are in Bulgarian language and one in Russian, the others are in English. In the materials sent to me, in the appendix to the publications, № 38 is missing. After reviewing the sent copies, I consider that publications 34 and 35 do not concern research in the field of Analytical Chemistry and Instrumental Analysis. Analytical issues are in the focus of publications 17, 21, 24, 27, 29 and 42, while for the rest in the predominant part are described applied and technological developments in which analytical chemistry and instrumental analysis are a tool rather than an object of study. However, I find that the presented scientific production is of high quality and testifies that the candidate poses in-depth mastery and application of modern

instrumental methods of analysis such as CG-MS; GC-MS / MS; HPLC; TGA; IR, etc., which is essential for the competition.

The recent check performed in SCOPUS about the candidate (with ORCID <https://orcid.org/0000-0002-2339-8002>) shows 21 referenced documents with a total of 175 citations (without self-citations) and an h-index of 8, confirming the high scientific prestige of L. Gonsalvesh-Musakova. Article №17 has the most citations (39), followed by Article №9 with 26 citations, in which she is the first author. According to data from SCOPUS, it is co-authored with 43 researchers, which confirms her ability for excellent scientific partnership. In the materials received by me on the competition in 17_APPENDIX_2_COPY_CITATIONS, 149 sources are attached, citing the candidate's works, while she declares in her participation in the competition with 167 citations (Appendix 11_LIST_CITATIONS). In the attached copies of the citing articles there are no citations as follow: 1.2; 3.2; 6.7; 9.10; 9.12; 10.15; 10.19; 10.22; 11.1; 11.2; 11.3; 12.5; 13.4; 17.24; 17.27; 17.36; 17.38; 17.39, but the number of existing citations is even higher than announced and fully satisfies the requirements. It is impressive that most of the citations are in reputable journals, but in areas related to fuels, ecology, processes and technologies, etc., and only 13 of them can be attributed to journals with topics focused on Analytical Chemistry and Instrumental Analysis.

The presented by Dr. Gonsalvesh-Musakova self-author's report correctly reflects the scientific and applied contributions of the candidate's work. I agree with her assessment that her production has a strong multidisciplinary character and I consider this to be an important dignity of her candidacy. The presented results are of pointedly practical and applied nature in three thematic areas:

- (i) Investigation of organic sulphur forms and organic matter composition of fossil solid fuels and other geological sites. Biodesulphurization.
- (ii) Recovery by pyrolysis and activation of industrial and domestic wastes to obtain "value-added products". Characterization and application of coal.
- iii) Atmospheric air quality analysis. Atmospheric pollutants - fine dust particulate matter, polycyclic aromatic hydrocarbons.

The scientific achievements fully satisfies the minimum national requirements and scientometric indicators of the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at the "Prof. Dr. Asen Zlatarov " University, Burgas (PURPNSZAD).

An important advantage of the candidate is the fact that she has an active participation in many scientific and educational projects:

- i) at IOCCP-BAS - 6 national and 7 international, in one of which she is appointed as the head of the scientific team of the institute, and in the other she was a head of the project.
- ii) at the University "Prof. Dr. Asen Zlatarov ", Burgas - she is the head of an internal project at SRD and a participant in the research teams of 4 other internal projects at SRD. She is the head of the research team at the University "Prof. Dr. Asen Zlatarov , Burgas on the implementation of a joint project with NIMH Sofia, funded by NSFB.

In the materials of the competition, the candidate presents three recommendations from renowned scientists - Prof. Yperman from Belgium and Prof. Vlaev and Assoc. Prof. Marinov, who define her as an active and productive scientist, thus convincingly supporting her candidacy.

Pedagogical and administrative activity: Chief. Assistant Professor Dr. L. Gonsalvesh-Musakova certifies serious pedagogical experience as a university lecturer leading lectures, laboratory exercises and compiler of curricula. She is a lecturer in the disciplines - "Inorganic and Analytical Chemistry", "Modern Methods of Analysis",

"Modern Analytical Methods"; "Modern instrumental methods for water analysis"; "Organic analysis", which directly relate to the topic of the competition, and in addition also in the disciplines "Applied Chemistry", "General Chemistry" and "Structure of the substance".

In addition to lectures, she conducts exercises with students from Bachelor's, Master's and doctoral studies.

Together with Assoc. Prof. Dr. Dimova she is the compiler of the Doctoral Program "Modern instrumental methods for water analysis" in Bulgarian and English languages, respectively.

Together with Assoc. Prof. Dr. Stancheva, she is the compiler of the curriculum in the discipline "Organic Analysis" for the specialty "Chemistry of Cosmetics and Surfactants" and in the specialty "Chemistry" for Bachelor's degree students.

In the reference for the academic activity of Dr. L. Gonsalvesh-Musakova she is indicated as a supervisor of one graduated by diploma work student and one she has supervised who has won the first prize for excellent presentation of a report at the Student Scientific Session in 2019.

She was a visiting lecturer at the Hasselt University, Belgium in the frame of Erasmus + teaching mobility.

L. Gonsalvesh-Musakova is a member of the Commission for evaluation and maintenance of the quality of education at the FNS of BU and is Technical Secretary of the Faculty council of BU.

Overall assessment: I do not know the candidate personally, but I am impressed by the presented materials and achievements of Ch. Assistant Professor Dr. Gonsalvesh-Musakova. Although not limited to the development of Analytical Chemistry and Instrumental Analysis, her scientific output is of high quality and reflection in world science, which gives me reason to believe that she has enough experience and qualities to habilitate in the subject of the competition. Her contacts with foreign partners and highly qualified scientists, from whom she has gained experience and knowledge, are indicative. The variety of lecture courses she leads is also an excellent indicator of her academic commitment.

Conclusion: As an external member of the Scientific Jury in the announced competition, I believe that the candidate meets the requirements of ZRASRB. The PhD dissertation has been successfully defended, as well as the scientific production with the participation of Ch. Assistant Professor Dr. Gonsalvesh-Musakova is of high quality and sufficient in volume. The candidate has the necessary pedagogical experience and academic practice. Regarding the required indicators, according to PURPNSZAD, my assessment of the candidate is high.

All the above motivates me to give a **positive** assessment to the candidate and to recommend to the honoured Scientific Jury and the members of the Faculty Council to award the academic position of "Associate Professor" to Ch. Assistant Professor Dr. Leniya-Nezaet de Brito Gonsalvesh-Musakova.

18.04.2021 r.

Member of Scientific Jury:

Assoc. Prof. Dr. Veselin Kmetov
(according order №RD-36/ 09.02.21)