REVIEW

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Member of a scientific jury, appointed by Order No. R-109-229/26.07.2024. of the Rector of MU-Varna in connection with the procedure for occupying the academic position "ASSOCIATE PROFESSOR", area of higher education 7. Health care and sports, professional direction 7.3. Pharmacy in the scientific specialty "Technology of dosage forms and biopharmacy" at the Department of "Pharmaceutical Technologies", according to a competition announced in the Official Gazette, no. 45 of 28.05.2024 on the proposal of the Faculty Council of the Faculty of Pharmacy

The submitted documents in connection with the competition are complete and are in accordance with the requirements of the Regulation for implementation of the Development of Academic Staff in the Republic of Bulgaria Act and the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna and enable a complete objective assessment of the candidate participating in the competition.

The only candidate in the competition is Ch. Assist. Prof. Viliana Eduardova Gugleva.

Analysis of the candidate's career profile

Viliana Gugleva was born on 02.10.1984. In 2006, she completed her secondary education at a high school with German language teaching in the city of Varna. In 2011 she graduated as a master pharmacist at the Faculty of Pharmacy, MU-Sofia. From 2012 until 2021, she is an assistant in "Technology of dosage forms and biopharmacy", initially in the department of "Pharmaceutical Sciences", and subsequently in the department of "Pharmaceutical Technologies". From 2021 until now, she is the chief assistant professor in the specialty "Technology of dosage forms and biopharmacy", department "Pharmaceutical Technologies", sector "Technology of dosage forms and biopharmacy", Faculty of Pharmacy, MU-Varna. She acquired a specialization in "Pharmaceutical technology with Biopharmacy" from 01.01.2017.

(According to Ordinance No. 1 of 22.01.2015 on the acquisition of a specialty in the health care system). She successfully completed the course "Safety Assessment of Cosmetic Products" at Sofia University "St. Kliment Ohridski". Viliana Gugleva is enrolled as a doctoral student of self-study with a dissertation on the topic: "Design and characterization of niosomes loaded with doxycycline hyclate for ophthalmic use" at MU-Sofia, Faculty of Pharmacy. After a successful defense in 2021 at MU-Sofia, she obtained the educational and scientific degree "Doctor" (PhD) in the doctoral program "Technology of dosage forms and biopharmacy".

Description of the submitted materials for the competition

The candidate Ch. Assist. Prof. Viliana Eduardova Gugleva, Ph.D. has submitted all the documents and evidence required by the Development of Academic Staff in the Republic of Bulgaria Act and the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna: curriculum vitae, certified diplomas for education and specialty, diploma for ESD "Doctor", certificate of internship, certificate of internship in the specialty, reference for the academic positions held, official reference for the academic load, academic reference issued by the library of the Medical University of Varna: list of scientific works and citations covering the minimum national requirements, full-text publications and citations beyond the minimum scientometric requirements, list of scientific works and citations used for the ESD "doctor" and for occupying an academic position "chief assistant professor," list for active profiles in Google Scholar, ORCID, Scopus Author ID, ResearchGate, application for Impact Factor; author's monographic work, summaries of scientific works and monographic work in Bulgarian and English, reference to original scientific contributions, list of participations in national and international scientific forums, etc.

Evaluation of the candidate's scientific works for the overall academic development

The candidate Ch. Assist. Prof. Viliana Gugleva, PhD participated in the competition with a total of 17 publications, of which 13 were referenced in Scopus, 3 were published in non-refereed peer-reviewed periodicals and one chapter of a monograph, equivalent to 1 publication. In 9 of the publications, she is the first author, and in the rest, she is the second author. The presented publications correspond to 229.56 points, with minimum scientometric requirements 200 points according to indicator G5-9. Evidence of 6 citations covering the minimum

requirements for indicator D10-12, corresponding to 90 points, is presented. From the reference made on the links provided by the candidate in Google Scholar, 585 citations and h-index 11 were found; respectively in ResearchGate – 423 citations, which many times exceeds the minimum legal requirements. The publications are in authoritative scientific journals with a high impact factor – a total of 41,947, and together with publications for ESD "doctor", the total IF of scientific production is 52,667. The scientific results of the candidate's research activities have been presented at many authoritative scientific forums abroad and in Bulgaria, which have made them known to a wide circle of the scientific community. In connection with the defense of the dissertation work for the acquisition of the ESD "doctor", three publications were presented, two of which were in journals with an impact factor (total IF 9.69), referenced in Scopus.

The contributing nature of the scientific developments of Viliana Gugleva can be presented in the following directions:

– pH-sensitive niosomes based on hexadecyl-poly(acrylic acid) copolymers were developed and the possibilities of loading them with a hydrophilic model substance and the hydrophobic curcumin with optimized physicochemical properties were studied. In an in vitro study on tumor cell lines, a higher cytotoxic and apoptogenic activity was found compared to free curcumin.

– The results of the studies on niosomes obtained based on nonionic surfactants (Span 20, Span 60, Span 80, Span 60 and Tween 60) are original. The results of high cannabidiol loading efficiency and good physicochemical characteristics are promising, which would enable the application of these carriers for a systemic medicinal product.

– The scientific contributions from the development of sterically stabilized niosomes with cannabidiol are of an original nature. Newly synthesized amphiphilic linear or star-shaped (3- and 4-armed) copolymers based on polyglycidol and poly(ε-caprolactone) blocks were used. Controlled release of cannabidiol and steric stabilization in a physiological environment was achieved. The vesicles retain the antineoplastic activity of cannabidiol and exhibit higher apoptogenic properties compared to free substance.

– The results of studies on the possibilities of using vesicular systems – ethosomes and transferosomes loaded with curcumin as a drug-delivery platform for dermal application – also make an original contribution. Hybrid systems based on bigels and nanostructured lipid carriers

have been developed. Their rheological characteristics were investigated and evaluated using various mathematical models. As a carrier for dermal application with the most suitable consistency is the bigel based on hydrogel: oleogel (80:20), which can also be of practical interest for the effective therapy of dermatological diseases.

– The obtained results of researching the processes of lyophilization of algae from the waters of the Black Sea in terms of protein content may have practical significance for pharmaceutical technology for their use as suitable emulsifiers in emulsion and colloidal systems.

– The obtained results for determining the antioxidant activity of extracts from the flowers of Sambucus nigra L. collected from four different regions in Bulgaria have a scientific and scientific-applied nature. It has been found that the accumulation of secondary metabolites improving antioxidant potential is greatly influenced by geographical conditions.

- The results of the survey among pharmacists and medical specialists in the territory of the city of Varna regarding the application of extemporaneous forms in medical practice have a contribution to the functioning of the pharmacy service. An analysis of doctors' views on extemporaneous and magisterial prescriptions was made. They are still preferred by doctors because extemporaneous prescriptions meet the need for a personalized approach to a specific patient. A particularly important place among extemporaneous prescriptions is currently occupied by those intended for the therapy of dermatological diseases, as well as in some cases of prescriptions for children. Extemporaneous forms can be a good alternative when certain commercial products are not available on the market.

– The resulting pH-sensitive niosomes loaded with curcumin have appropriate physicochemical parameters and pH-dependent release of the medicinal substance. The increased cytotoxic and apoptotic activity shown in the study makes the obtained models potential for translation into clinical practice in the therapy of bladder carcinoma and cutaneous T-cell lymphoma.

– Modified niosomes loaded with cannabidiol show controlled release, optimal physicochemical characteristics and steric stabilization. The biopharmaceutical characteristics in a physiologically relevant environment and the higher apoptogenic effects make them potentially applicable in the therapy of oncological diseases.

– The developed curcumin ethosomes with the obtained physicochemical and biopharmaceutical characteristics and more pronounced antiproliferative activity compared to

the free substance may be applied as one possibility in the therapy of cutaneous T-cell lymphoma.

Since 2023, she has been a guest editor in the journal Pharmaceutics - an extremely authoritative periodical. I believe that this is a very high assessment of Viliana Gugleva as a researcher.

Evaluation of the monographic work

The candidate has presented an author's monographic work on the topic "Modern trends and perspectives in the design of vesicular systems. Focus on Niosomes'. It was published by the University Publishing House of MU - Varna, ISBN: 978-619-221-498. The monographic work is written on 124 pages, illustrated with 13 figures, 8 tables and a bibliography including 235 literary sources. It is structured in six chapters, each of which presents different aspects in the design and development trends of vesicular systems, particularly niosomes. Its relevance is indisputable due to the great application possibilities of niosomes as a drug delivery system of medicinal substances with different properties. The still unresolved problems of ensuring their stability and reproducibility in production are the basis of great research interest. Its relevance is indisputable due to the great application possibilities of niosomes as a drug delivery system of medicinal substances with different properties. The still unresolved problems of ensuring their stability and reproducibility in production are the basis of great research interest.

The monographic work of Ch. Assist. Prof. Viliana Gugleva, df is written in very good professional language, it shows extremely good knowledge of the subject. The presented information about the existing and applied in therapeutic practice medicinal products based on liposomes is very useful. The performed characterization of niosomes shows the possibilities of application as a drug delivery system for both hydrophilic and hydrophobic medicinal substances - an approach successfully carried out by the author of the monograph, which is demonstrated by the presented own research. Evaluation of the achieved results is their publication in the most authoritative periodicals in the field of pharmaceutical technology and pharmacy. Based on our own research, strategies for future clinical application of niosomes as carriers of medicinal substances are proposed. The monographic work would be very useful with its informativeness for the pharmaceutical community.

Study-methodical and teaching activity

The certificate of the candidate's study load, issued by the study department of MU-Varna, shows that in the last five years she had a load of 360 to over 500 hours per year. She led a practical exercise for pharmacy students, and during the last three academic years she also held lectures for 19, 34 and 46 hours, respectively. She participated in the conduct of semester exams as well as control of current work of students.

From 2021 she is responsible for quality for the Department of "Pharmaceutical Technologies", in 2022 he is the course leader of the specialty "Cosmetology" - a non-regulated specialty. The candidate's teaching experience is 12 years. From the reference made from the website of MU-Varna, University Publishing House, it can be seen that Ch. Assist. Prof. Viliana Gugleva is a co-author of the published "Test questions for self-training on the technology of dosage forms for students majoring in Pharmacy". Part I, publishing house of Medical University of Varna, ISBN: 978-619-221-259-9 and "Test questions for self-training on the technology of dosage forms for students majoring in Pharmacy". Part II, publishing house of the Medical University of Varna, ISBN: 978-619-221-264-3. She participated in the author's collective of the published four Study notebooks for practical exercises on the technology of medicinal forms, which are also published by the publishing house of the Medical University - Varna. This undoubtedly has an important role in building and as a teacher.

General assessment of the applicant's compliance with the mandatory conditions and the mandatory quantitative criteria and scientometric indicators

Based on the assessment of the documents submitted for the competition and the above, I believe that Ch. Assist. Prof. Viliana Eduardova Gugleva, PhD, meets all the conditions for holding academic position "Associate Professor" according to Art. 125 (1) of the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna: holds the National Doctoral Certificate, meets the minimum national requirements, has been assistant and chief assistant 12 years (according to the Regulations at least 5), has acquired a specialty in postgraduate study - the same as in the announced competition, has a study load that repeatedly exceeds the requirements of the Regulations, meets and exceeds all mandatory quantitative scientometric and specific quality criteria of the Regulation for implementation of the Development of Academic Staff in the Republic of Bulgaria Act and the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna.

She is a trained researcher and teacher in the specialty "Technology of dosage forms and biopharmacy".

CONCLUSION

Considering the criteria of the Development of Academic Staff in the Republic of Bulgaria Act for the occupation of academic position "Associate Professor" and according to Art. 125 (1) of the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna, I consider that there is full compliance with the presented for the competition, documents from the candidate Ch. Assist. Prof. Viliana Eduardova Gugleva, PhD. She has more than 12 years of teaching experience and covers all the mandatory quantitative criteria and scientometric indicators for occupying the academic position "ASSOCIATE PROFESSOR", specified in Appendix No. 1 of the Regulations on Academic Staff Development at Medical University Prof. Dr. Paraskev Stoyanov – Varna.

***Therefore, I express my positive opinion towards the candidacy of Viliana Gugleva and I strongly recommend to the members of the honorable Scientific Jury to make a positive decision to occupy the academic position* "ASSOCIATE PROFESSOR", Ch. Assist. Prof. Viliana Eduardova Gugleva, PhD.**

Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679

Prepared by:

05.10.2024

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