

REVIEW

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Regarding: the procedure for the Academic position of "Associate Professor" in the scientific specialty Biochemistry, professional field 4.3. Biological sciences, field of higher education 4. Natural sciences, mathematics and informatics

1. Information about the procedure

The procedure was announced for the needs of the Department of "Biochemistry, Molecular Medicine and Nutrigenomics" at the Faculty of Pharmacy, MU-Varna in the State Gazette - no. 59/26.07.2022

Reason for submitting this review: I am a member of the scientific jury of the procedure, according to Order No. P-109-375/26.09.2022 of the Rector of MU-Varna.

2. Brief information about the candidates in the competition.

One candidate submitted documents for the announced procedure, Head assistant professor Oskan Bakhidinov Tasinov, PhD. The candidate's documents are prepared in accordance with the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria

CAREER DEVELOPMENT OF THE CANDIDATE

Head assistant professor Oskan Bakhidinov Tasinov, PhD. has received a bachelor's degree in Molecular Biology at Sofia University "St. Kliment Ohridski", and a master's degree in Molecular Biology and Biotechnology at Plovdiv University "Paisiy Hilendarski". In March 2015, he obtained a PhD in with a PhD thesis entitled "Study of the antioxidant, antiobesity and antidiabetic effects of fruit extracts of *Sambucus ebulus* *in vitro* and *in vivo*". In 2016, after successfully passing the state exam in the system of the Ministry of Health, he acquired the specialty "biochemistry".

Since March 2010, Oskan Tasinov has been appointed as an Assistant professor, and since 2016 as a "Head assistant professor " in biochemistry in the Department of "Biochemistry, Molecular Medicine and Nutrigenomics" at the Faculty of Pharmacy, MU-Varna, where he continues to work until now.

According to a reference from MU-Varna, Oskan Tasinov has over 12 years of experience in the specialty, completed at MU-Varna.

First as an Assistant professor, then as PhD student, and then as a Head assistant professor, Oskan Tasinov increased and expanded his qualifications, skills and interests by participating in a one-month specialization abroad (Center for Molecular Medicine and Chronic Diseases (CIMUS), at the University of Santiago de Compostela , Spain) and a number of short-term courses in Bulgaria and abroad (8 before acquiring the PhD degree and the other 12 after his election as a Head assistant professor).

Oskan uses at a good level Turkish and German languages and has obtained a B2 level of English language proficiency, which enables him to easily conduct classes with English-educated students.

3. Completion of the requirements for obtaining the academic position "Associate Professor".

EDUCATIONAL AND TEACHING ACTIVITY

As mentioned above, Oskan Tasinov was appointed as an Assistant professor of biochemistry in the Department of "Biochemistry, Molecular Medicine and Nutrigenomics" at the Faculty of Pharmacy, MU-Varna, in 2010, making over 12 and a half years of teaching experience.

During this period, Head Ass. Prof. Tasinov conducts exercises in biochemistry for students of the specialties of medicine and dental medicine (Bulgarian and English language training) and pharmacy (in Bulgarian). He conducts 3 Elective courses - one for medical students in Bulgarian and English ("Molecular Biology in Medicine") and two for pharmacy students in Bulgarian ("Omic Sciences in Pharmacy" and "Biological role, mechanism of action and pharmacological application of macronutrients and their salts").

According to the Report from the Educational Office of MU-Varna, for the last 5 years, Head Ass. Prof. Tasinov annually exceeds the normative load of 360 study hours - the average annual study load for the last 5 years amounts to 374.8.

In addition to his direct participation in the auditory classes (exercises and lectures), Head Ass. Prof. Tasinov assists in the organization of the educational process as a co-author of 3 workbooks with a total volume of 347 pages (not presented in the lists).

SCIENTOMETRICAL INDICATORS

According to the Academic Report attached to the documents, Head Ass. Prof. Tasinov presents a total list of: 1 dissertation for the PhD degree, 1 monograph and 27 publications (7 publications in journals with impact factor (IF), 10 with SJR and/or JCR and 10 in Bulgarian scientific journals). The articles published in journals with IF are less than those presented in the Academic reference, because since 2018 the journal *Bulgarian Chemical Communications* is not referenced in WoS and has no IF - the articles are from 2019 and 2020, and the journal *Bulgarian Journal of Agricultural Science* receives IF from 2019, and Oscan's articles in the journal are from 2013.

In addition to the full text papers, Head Ass. Prof. Tasinov presents another 45 scientific reports at international forums (30 after PhD degree) and 12 at university and/or local scientific forums in Bulgaria (4 after PhD degree).

Thus, in the procedure for the academic position "Associate Professor", Head Ass. Prof. Oskan Tasinov includes a dissertation work, 1 monograph with the qualities of a habilitation work and 15 publications in journals referenced in WoS/Scopus with quartiles: 6 publications in journals with IF, total IF= 20.094, 7 with SJR and/or JCR (from 2017 the journal *Bulgarian Chemical Communications* is not referenced in WoS and has no IF) and 2 in Bulgarian scientific journals without IF and SJR.

According to the reference in Scopus, Oskan Tasinov has a total of 57 citations, and the citation index (h-index, Hirsch index, according to SCOPUS) is 4.

Among the journals with IF, in which the papers of Oskan are published are:

- ✓ *Cancers* – IF2021= 6.575
- ✓ *Plants (Basel)*– IF2021= 4.658
- ✓ *Archives of Physiology and Biochemistry* – IF2021= 3.188
- ✓ *Current Oncology* – IF2021= 3.109
- ✓ *Homeopatya* - IF2021 = 1.818
- ✓ *Veterinarni Medicina* – IF2021=0.746

According to the indicators in group B of the National minimum scientometric requirements, Oskan Tasinov presents a monograph with the value of a habilitation work with the equivalent of 100 points. The monograph is entitled "Molecular mechanisms of the immunomodulatory action - basis for the prophylactic and therapeutic potential of *Sambucus ebulus L*". The monograph is in a volume of 170 pages and includes over 450 literary sources and own results from a number of studies conducted at the Department of

"Biochemistry, Molecular Medicine and Nutrigenomics" of MU-Varna with the participation of the Oskan.

The monograph is a well-structured analytical and comprehensive review of the immunomodulatory potential of medical plants and the molecular mechanisms underlying this action. The monographic work examines the structure, nature and immunomodulatory properties of some of the best studied compounds of plant origin such as curcumin; resveratrol; epigallocatechin-3-gallate, quercetin. Comprehensive information is presented on these four, as well as on other plant immunomodulators with anticancer and antiviral effects (kaempferitrin, genistein, 6-gingerol, tangeretin, apigenin, kaempferol, various lectins, etc.) and the mechanisms of action leading to their cytotoxic, anticancer and antiviral activity.

The section of the monograph focused on the components of the human immune system, the inflammatory process, and the signaling pathway involved in them, demonstrates the author's extensive knowledge and is an easy workbook to the fundamentals of immunology for students and other groups interested in these processes.

Special attention in the monograph is given to the extensive review and analysis, both from the scientific literature and from own research, on the molecular composition and cellular mechanisms underlying the biological effects of dwarf elder, (herbaceous elder, *Sambucus ebulus* L.).

This part includes the results of the long-term research conducted by the team of the department, including 5 publications from the Academic report of Oskan submitted to the procedure (indicator G7: 1,2,4,5,11) and 3 publications from those for academic position "head assistant professor" and PhD.

The monograph presents comprehensive literature review of the knowledge on the chemical composition of different types of extracts from fruits, flowers, leaves and roots of *S. ebulus*, and on the influence of the phytochemical compounds of the dwarf elder on key signaling and metabolic pathways, which explain the underlying molecular mechanisms of antioxidant, immunostimulating, anti-inflammatory and anti-cancer effects of *S. ebulus*. Thus, the presented monograph contributes to the expansion of scientific and theoretical knowledge in the field of phytochemistry and provides a rational basis for expanding the application of extracts from this herb in phytoprophylaxis and phytotherapy for various infla

According to indicators in group G, Oskan Tasinov includes **13 scientific works**, of which **6 are publications** in journals referenced and indexed in WEB OF SCIENCE and SCOPUS **with impact factor** and quartiles (2 with Q1, 3 with Q2; 1 with Q3; total 125

points), **7 are publications** in journals without impact factor, but referenced and indexed in SCOPUS and are with quartiles from Scimago (7 with Q4, total 84 p.).

Of the publications under indicator G, (13 articles), the head ass. prof. Tasinov is the first author of 5 of them (38%), and in another 5 he is the second author (38%), which shows his personal contribution and active participation in the elaboration of the topic, laboratory work and preparation of the publications.

According to the submitted documents under indicator D, 3 of the scientific works co-authored with Oskan Tasinov have been cited a total of 25 times in journal referenced in WEB OF SCIENCE and/or SCOPUS, which makes it possible to cover the minimum national requirements under indicator D of 50 points. When searching in Scopus, as mentioned above, Oskan Tasinov's name is associated with 57 citations and h-index 4, which is evidence of a greater interest on the part of the international scientific community in the results obtained by Oskan, than the minimum requirements.

Head ass. prof. Tasinov is an extremely active participant in almost all scientific research projects developed in the Department of "Biochemistry, Molecular Medicine and Nutrigenomics" of MU-Varna. After receiving the PhD, Oskan is a member of the working teams of 5 scientific projects financed by the " Ministry of Education and Culture (on one of them he is the head of a work package) and of 11 scientific projects funded by MU-Varna.

After 2015, Oskan Tasinov has received a number of certificates and awards: 2015 - Certificate for high scientific achievements in dissertations of the Union of Scientists in Bulgaria for 2015; 2019- best poster at the 3rd International Conference on Bio-Antioxidants (BIO-ANTIOXIDANTS 2019), Nessebar; 2019- Certificate for a young scientist of the Varna Union of Scientists, "Health and Sports" section.

4. Brief description of the presented scientific papers

EVALUATION OF SCIENTIFIC CONTRIBUTIONS

The research interests and contributions from the studies carried out by the head ass. prof. Oskan Tasinov and the collectives he works with, according to the statement of contributions presented by him, are in three directions:

- 1) Evaluation of biological effects of medicinal plants in intervention studies and cell culture model systems. (monograph and G7-1, G7-2, G7-4, G7-5, G7-6, G7-11, publications outside minimal requirements - 1 and 2)

2) Investigation of the biological effects of water and nutritional supplements containing micro- and macro-elements and their salts in intervention studies and model systems of cell cultures and animals. (G7-3, G7-7, G7-10, G7-12)

3) Biomarkers for CRC (G7-8, G7-9, G7-10)

When evaluating the contributions of Oskan Tasinov's scientific publications, I will omit those from Oskan's reference list, which have already been discussed in connection with the dissertation work, and I will only comment on the contributions from the publications included in the procedure for "associated professor". Among the most important contributions, which are mainly of a scientific-theoretical and applied nature, I would note the following.

A high content of polyphenols was found in total extracts and different fractions of 70% acetone and in methanol extract of dwarf elder's fruits, and their antioxidant activity and cytoprotective and anti-inflammatory effect in cell cultures were proven.

Previously undescribed chemical components such as hyperoside, isoquercetin, isorhamnetin-3-O- β -glucopyranoside and others were demonstrated in the ethyl acetate fraction of the total methanolic extract of dwarf elder's fruits. Other original results of a scientific-theoretical nature are those of the phytochemical analyzes of the water extract of the dwarf elder's fruits, in which the contents of some amino acids, organic acids, alcohols, fatty acids and their esters and anthocyanins were described for the first time.

Of potentially applied nature are the results of studies on the effects of an aqueous extract of dwarf elder's fruits (*Sambucus ebulus*) and whip (*Agrimonia eupatoria* L. tea) and an ethanol extract of black mulberry (*Morus nigra* L.) core, in which has been shown to suppress an experimentally induced inflammatory response in cell cultures of macrophages and in peripheral blood mononuclear cells.

Of applied nature is the proven cytotoxicity of the waters from 5 water sources in the Varna region with proven development of toxigenic cyanoprokaryotes.

Also of potentially applied nature are the results of the intervention studies of volunteers consuming sulfur-containing mineral waters (SMW) from two sources in Varna, which proved that the consumption of SMW improves the redox status in humans by increasing the plasma levels of total glutathione, total thiols and the expression of a key enzyme in glutathione synthesis.

Of interest are the results of studies on the molecular mechanisms of action of Ferrum phosphoricum (FP), which have shown that this homeopathic agent for the treatment of the early stages of fever and inflammation, stimulates the proliferation of a cell

culture of macrophages and the transcription of ferritin, other proteins of iron metabolism, the antioxidant enzyme GPx-1 and the pro-inflammatory cytokine IL-1 β .

Research aimed at searching for new biomarkers in colorectal carcinoma has led to confirmatory results: levels of circulating miR-618 may be a useful prognostic biomarker, and rs2682818 SNP of miR-618 is a risk factor for the development of metastatic colorectal carcinoma.

A methodological contribution is the proposed approach to increase the sensitivity and quality of qPCR analysis of cDNA from formalin-fixed and paraffin-embedded (FFPE) tissue. It involves the application of RNA isolation with lysis buffer in combination with phenol-based extraction, followed by preamplification of cDNA with gene-specific primers.

In conclusion of the analysis of the results and contributions of the scientific publications of Oskan Tasinov, I would like to emphasize that the achieved results are distinguished by high quality and scientific value, which is proven by the impact of journals in which they are published and by the fact that there is already interest from the scientific community (57 citations).

5. Main critical remarks and recommendations

As a summary of the presented reference of the contributions from the publications of the head ass. prof. Oskan Tasinov, I would allow myself to make the following remarks:

1. Contributions are not derived and presented with the necessary accuracy and clarity. The reference presents more of a list of research findings than contributions. In addition, they are presented too fragmented, article by article, and in most cases it is noted that the described research was conducted for the first time. The fact that some research has been done is not in itself a contribution - the contribution is the proven new and confirmatory facts or established mechanisms.

2. I think that the use of expressions such as "For the first time in Bulgaria it was investigated" or "For the first time they are investigated", "For the first time it is established" and similar expressions, with which almost all paragraphs in the reference begin, it is advisable to avoid, and instead it would be appropriate to present which of the contributions are original and which are corroborative.

3. Some of the presented contributions actually represent conclusions from a literature review, an overview of the information published in the literature, and such an overview cannot be accepted as a contribution (G7-09).

That's why I would most kindly recommend Oscan to build better skills for analyzing and deducing the essence of scientific results and contributions from them. Contributions should be presented in a more specific/shorter format and classified according to their type: original/confirmatory with a scientific-theoretical, scientific-applied and/or methodological nature. All this would benefit him in the preparation and organization of documents in his academic growth and in the guidance of his future PhD students.

6. Conclusions:

From the review and analysis of the submitted documents of the candidate in the procedure for the academic position "ASSOCIATE PROFESSOR" in Biochemistry, announced for the needs of the Department of "Biochemistry, Molecular Medicine and Nutrigenomics" of the Faculty of Pharmacy, MU-Varna, it is necessary to conclude that the head assistant professor Oskan Bakhidinov Tasinov, PhD, has a sufficient volume and quality of scientific production and teaching activity.

The presented official documents and my personal impressions outline Oskan Tasinov as a very modest and hardworking young scientist, but also a respected and experienced teacher, an established researcher, with solid knowledge and skills in the field of molecular medicine, biochemistry, photochemistry and nutrigenomics. I think that the election of the head assistant professor Oskan Tasinov as "Associate Professor", will give him the opportunity to show greater independence, to develop new directions of scientific research and to lead scientific research projects for their realization.

Bearing in mind everything highlighted above regarding the teaching activity, scientific contributions, and personal qualities of the head assistant professor Oskan Tasinov, as well as taking into account the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria for the acquisition of the academic position "ASSOCIATE PROFESSOR", I am fully convinced to vote positively and recommend to the respected members of the Scientific Jury to vote for the awarding of the **Head Assistant Professor Oskan Bakhidinov Tasinov**, PhD of the academic position "ASSOCIATE PROFESSOR" in the scientific specialty "Biochemistry".

03.12.2022, Stara Zagora

Reviewer: 

/Prof. Tatyana Vlaykova, PhD/