

STATEMENT OF OPINION

Author of the statement: Assoc. prof. Albena Vasileva Merdzhanova, PhD

Department of Chemistry,

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Regarding: A competition for the academic position “Associate Professor” within the higher education field of 4. Natural Sciences, Mathematics and Informatics, professional field 4.2. Chemical Sciences, in scientific specialty "Chemistry", for the needs of the Medical College at Trakia University, teaching "Chemistry" for all specialties of the Medical College, announced in the State Gazette, issue 13/15.02.2022.

By Order No. 1030/12.04.2022 of the Rector of Trakia University and by the decision of the Academic Council of University of Thrace-Stara Zagora, I have been elected as a member of the scientific jury in the procedure for holding the academic position of "Associate Professor" in Chemistry, with the only candidate MPharm Hristo Plamenov Varbanov and I am appointed to present a statement on the competition and the candidate.

MPharm Hristo Plamenov Varbanov participates as the only candidate in the competition. The documents submitted by him have been prepared in accordance with the requirements of the Academic Staff Development Act of the Republic of Bulgaria and the Regulations for its implementation, as well as the Regulations for the Development of the Academic Staff of the Trakia University - Stara Zagora. The terms and conditions of the procedure for the acquisition of the academic position of Associate Professor have been fulfilled and are in compliance with the regulatory documents.

Biographical data

MPharm Hristo Varbanov completed his higher education at the Faculty of Pharmacy of Medical University - Sofia and graduated as a Master of Pharmacy in 2009. In 2013 he defended his thesis entitled *New antineoplastic platinum (IV) complexes: Synthesis, characterization, biological studies and structure-activity relationships* at the Institute of Inorganic Chemistry, University of Vienna, Austria as "Doctor of Natural Sciences". From 2013 to 2014 the candidate was a guest lecturer during the European FP7 project 'Beyond Everest'. The candidate has accumulated significant experience as a Research Fellow and Postdoctoral Fellow for the period 2014-2018 at the FWF Schrödinger Programme at the Institute of Chemical Sciences, EPFL, Switzerland and the Institute of Inorganic Chemistry, University of Vienna, Austria, and until 2021 at the Institute of Chemistry, Karl-Franzens-Universität Graz, Austria. As of February 2022, MPharm Hristo Varbanov is a lecturer in Analytical Chemistry at the Medical College of Trakia University - Stara Zagora.

Evaluation of the fulfilment of the minimum national requirements and of the scientific publications

MPharm Hristo Varbanov has presented the required materials in chronological order, clearly and neatly, which allows me to accurately and objectively make a general characteristic and evaluation of his scientific, applied and publication activities.

The table presented below summarises the information declared by the candidate in terms of scientific metrics and scores:

Metrics	Scientific production	Minimal scores	Points of the candidate
A	PhD thesis: 'Novel antineoplastic Platinum(IV) complexes: synthesis, characterization, biological studies and structure-activity relationships'	50	50
B	Thesis or equivalent scientific publications in publications that are refereed and indexed in world-renowned databases of scientific information (Scopus, Web of Science)	100	180
C	Scientific publications in journals that are refereed and indexed in world-renowned databases of scientific information (Web of Science и Scopus), outside the habilitation thesis	200	345
D	Citations in scientific journals, refereed and indexed in world-known databases with scientific information (Web of Science и Scopus)	50	908

In *indicators A* group a PhD thesis fulfilling the minimum requirement of 50 points is presented. In *indicators B* group equivalent to a habilitation thesis scientific publications with a common theme: "Development of new strategies to improve chemotherapy of difficult-to-treat malignant diseases are presented. Design of multifunctional Pt (IV) prodrugs". The applicant has submitted a significantly higher number of publications than the required minimum number of points - 5 publications in Q1 journals (25 points), 2 publications in Q2 journals (20 points), 1 publication in a Q3 journal (15 points), all co-authored with international teams and published between 2016 and 2021. In *indicators C group*, beyond the habilitation thesis are presented 16 scientific publications in journals that are refereed and indexed in world-renowned databases of scientific information (Web of Science and Scopus). Among them 7 issues are in journals with Q1 (25 points), 7 issues - in journals with Q2 (20 points), 2 publications - in journals with Q3 (15 points), most of them being co-authored with international teams and published in the period 2007-2016. In *indicators D* group the candidate presents citations in scientific journals, monographs, patents, refereed and

indexed in world-known databases of scientific information equivalent to 908 points, which significantly exceeds the required minimum.

Science metrics

The scientific-metric indicators of MPharm Hristo Varbanov fully meet the criteria of the Law on the Development of Academic Staff of the Trakia University. The presented 27 scientific publications correspond to the subject of the competition and have not been presented in other competitions, therefore they are accepted for evaluation. In most of these publications, MPharm Hristo Varbanov is the first author. According to the submitted reference, the candidate has a total of over 450 citations (without author citations) in journals, refereed and indexed in world-renowned databases of scientific information (Web of Science and Scopus); h-index: 18 (Google Scholar), h-index: 16 (Web of Science), which shows that the results of the candidate's research have aroused serious interest abroad and at home.

Scientific activity

Areas of scientific interest

The scientific research activity of MPharm Hristo Varbanov is in the field of medicinal, bioinorganic and bioanalytical chemistry. His research is focused on the design, synthesis and description of metal complexes with biological activity. The candidate shows that he is well grounded in the use of many modern instrumental methods for chemical and pharmaceutical analysis (including HPLC, NMR, ESI-MS, etc.), is proficient in cell culture; screening of drug libraries, and has been involved in the development of QSAR and QSPR models.

Participation in scientific projects and forums

MPharm Hristo Varbanov has participated in the implementation of projects related to "New metal-based chemotherapeutics against problematic tumors", "Design and synthesis of new radiocontrast agents" under various international programs, and participated in over 20 scientific conferences for the period 2006 - 2018. It is also important to mention the participation of the candidate as a reviewer for the following scientific journals: Chemical Science, Current Pharmaceutical Analysis, Dalton Transactions, Journal of Biological Inorganic Chemistry, Journal of Molecular Structure, Inorganic Chemistry, Inorganica Chimica Acta, Medicinal Chemistry, New Journal of Chemistry, and RSC Advances.

Scientific and applied contributions

The scientific contributions of MPharm Hristo Varbanov can be systematized in several scientific areas:

- ✓ Development of new approaches to improve chemotherapy of difficult-to-treat neoplasias and design of multifunctional Pt (IV) prodrugs - screening-based methods for identification of new potential chemotherapeutics for treatment of pancreatic and lung cancer based on drugs with other applications have been developed and validated;
- ✓ Research of the influence of the coordination sphere on the physicochemical properties and the biological activity of cytotoxic Pt (IV) complexes and established dependence of

physicochemical properties and biological activity of antineoplastic Pt (IV) prodrug on their structure;

- ✓ Development of reliable chromatographic methods for determination and models for prediction of lipophilicity of metal complexes with biological activity.
- ✓ Design and development of tungsten-based radiocontrast agents to improve X-ray diagnostics of oncological and pulmonary diseases.

Based on the analysis of the presented research papers and activities by Mpharm. Hristo Varbanov, I believe that he is an established and serious researcher who can pose scientific problems and find solutions through appropriate experimental design and precise research work. On the basis of the studies carried out and the results obtained, published in high quality journals, the candidate provides new, important data and information of definite scientific and practical relevance.

Instruction and teaching activities

From 2004 to the present the candidate has prepared students for participation in Chemistry Olympiads (2004 - 2008), conducted practical seminars in general chemistry, bioinorganic chemistry as well as co-supervised Bachelor and Master Theses at the University of Vienna for the period 2009-2013 and 2016-2018. During the same period, he has taught laboratory interns at EPFL, Switzerland and supervised students in organometallic chemistry at the University of Graz, Austria (2018-2020). Since February 2022, he is a lecturer in Analytical Chemistry, teaching a lecture course to students of "Assistant Pharmacist", Medical College of Trakia University - Stara Zagora, Bulgaria.

In conclusion:

The candidate's scientific contributions, thorough scientific work and teaching activities described in this statement give me reason to vote for the election of MPharm. Hristo Varbanov to the academic position of *Associate Professor* in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2. Chemical Sciences in "Chemistry" for the needs of the Medical College, Trakia University, teaching "Chemistry" for all specialties of the Medical College.

31 May 2022

Statement of opinion prepared by:

Assoc. prof. Albena V. Merdzhanova, PhD

