

R E V I E W

ON THE COMPETITION FOR THE ACADEMIC POSITION “PROFESSOR” (0.5 FTE) IN SCIENTIFIC SPECIALTY „ANATOMY, HISTOLOGY AND CYTOLOGY“ FOR THE MEDICAL COLLEGE, TRAKIA UNIVERSITY – STARA ZAGORA

Reviewer: Prof. NIKOLAI ELENKOV LAZAROV, MD, PhD, DSc

Candidate: Assoc. Prof. TANYA TODOROVA KITOVA, MD, PhD, DSc

In the competition for the academic position “Professor” in the scientific specialty “Anatomy, Histology and Cytology” for the needs of the Medical College to the Trakia University (TrU) in Stara Zagora, announced in the State Newspaper, Issue 30/13.04.2021, one candidate applied: **ASSOCIATE PROFESSOR TANYA TODOROVA KITOVA, MD, PhD, DSc**, an Associate Professor in the Department of Anatomy, Histology and Embryology to the Medical University (MU) of Plovdiv.

Assoc. Prof. Tanya Kitova was born on December 7, 1958 in the city of Karlovo. In 1984 Kitova graduated with honors from the Higher Medical Institute (now MU)-Plovdiv and received a diploma of higher education with a master's degree as a Medical Doctor (MD). In the same year she won a competition and took the position of an assistant professor in the Department of Anatomy, Histology and Embryology of the MU-Plovdiv, where she covered the entire academic career of a senior assistant professor (since 1990), head assistant professor (since 1993) and associate professor (since 2015) in the same department. In 1989 Dr. Tanya Kitova obtained specialty in Anatomy, and in 2011 in Fetal Pathology and Pathology of the Placenta at the Paris Diderot University, France. Following a successful defense of a doctoral dissertation entitled “*Associated anomalies in fetuses with neural tube defects*” in 2013 she was awarded a PhD degree and in 2018 for her thesis “*Congenital hydrocephalus with lethal outcome of the fetus*” she acquired the scientific degree Doctor of Science (DSc) in the scientific field of Anatomy, Histology and Cytology. For 15 months Assoc. Prof. T. Kitova was Vice Dean of the Medical Faculty, MU-Plovdiv. Since 2020, Kitova has been an associate professor at a 0.5 full-time position in the Medical College to the TrU-Stara Zagora. During the period 2006-2009 she specialized in the Department of Embryo-Fetopathology, Center for Maternity and Neonatology of Tunis, Tunisia. Assoc. Prof. Kitova has conducted short-term specializations at the medical universities in Hanoi, Vietnam and Yerevan, Armenia, and also in the Karaganda State Medical University, Kazakhstan. She has acquired professional qualification

in statistics (attached certificate for working knowledge of statistical software package SPSSv.17.0) and has very good computer literacy. Her language skills are also enviable as she speaks French, English and Russian. Tanya Kitova is a regular member of the Bulgarian Medical Association, the Bulgarian Anatomical Society and the French Society of Fetal Pathology (Société Française de Foetopathologie).

Assoc. Prof. Tanya Kitova has a total of 37 years (with small breaks) teaching experience, out of which 6 years as a habilitated university lecturer. In his long-term practice as an assistant professor she has been conducting practicals, seminars and colloquia with medical, dental medicine and pharmacy students, as well as with nurse-midwife studying students. Following her habilitation, Assoc. Prof. Kitova delivered lectures on anatomy and histology to students in MU-Plovdiv and she has also delivered the entire lecture course in the same discipline to rehabilitators, medical laboratory technicians, assistant pharmacists and students of medical cosmetics in the Medical College to the TrU-Stara Zagora and has held a theoretical exam in these subjects. Together with colleagues from the department she has published two manuals in anatomy and histology for students of pharmacy, and with colleagues from other departments she co-authored a textbook entitled "*Fundamentals of Neurosurgery*" in Bulgarian and English, and an Atlas of the Human Brain in English. Despite the fact that in the documentation I did not find a reference about the teaching load of Assoc. Prof. Kitova, I accept a priori that she has fulfilled the obligatory teacher's horarium, achieved with classroom (lectures and seminars) and extracurricular employment.

Summarizing the overall pedagogical activity of Assoc. Prof. Tanya Kitova, I do believe that she has the necessary qualifications and proven qualities of a lecturer with high professionalism. The candidate fully meets the legal requirements and the approved amount of hours at the Trakia University concerning the type and volume of teaching activities needed for holding the academic position "Professor".

Assoc. Prof. Tanya Kitova presents two lists of her scientific publications: a list of two dissertations, two monographs and 28 publications in scientific journals and scientific thematic collections, with which she participated in a competition for the academic position of "Associate Professor" (not subject to review) and list of her scientific works after the habilitation. The profile of the scientific papers submitted for participation in this competition comprises a summary of her thesis for obtaining the DSc degree, a monograph, which is a scientific book with ISBN based on

her doctoral dissertation, entitled "*Possibilities of fetopathology to determine the causes of fetal death*", 12 full-text articles in scientific journals with impact factor, referred and indexed in world-leading databases with scientific information, i.e. Web of Science and Scopus (all in English), 11 publications in journals without impact factor, referred in Scopus or Web of Science (9 in English and 2 in Bulgarian), 11 scientific articles in English in international journals, not referred in world-leading databases of scientific information and 31 full-text publications in edited congress or conference proceedings, 12 of which in English, 17 in Bulgarian and 2 in Russian languages. The monograph and 6 of the publications are the sole work of Kitova, in other 21 papers she is the first co-author, i.e. > 42% of her scientific works are with her leading participation. The list of her scientific publications also includes 11 chapters in collective monographs with a separate bibliography, in 4 of which she is the lead author. The scientific activity of the candidate also includes 4 abstract of science communications published in journals, referred in Scopus or Web of Science, and 32 reports, presented at international and national scientific events with her participation. According to the data provided by the candidate (in the documentation there is no official reference from the National Center for Information and Documentation, the Central Library of TrU or the Library and Information Center of MU-Plovdiv), my calculations show that the total impact factor of the journals with the publications of Kitova on the competition is 17.008.

The research interests of Assoc. Prof. Kitova are in the field of teratology, fetopathology and prenatal diagnosis of congenital fetal abnormalities. Specifically, the scientific developments of the candidate and their contributions can be combined in the following main thematic areas:

1. Diagnosis and examination of neural tube defects, malformations of the central nervous system (CNS) and internal organs.
2. Investigation of the morphology of cerebral vasculature and its pathology.
3. Studies on vascular pathology and their significance for clinical practice.

The main thematic problem, to which most of the creative research of Assoc. Prof. Kitova is dedicated, is the study of neural tube defects and the associated anomalies in fetuses with congenital malformations. In the course of the experiments a detailed fetopathological study was carried out to determine the causes of congenital hydrocephalus, endogenous and exogenous risk factors for intrauterine death and stillbirth, the most common genetic abnormalities and the consequences of their presence. A wide range of methods was used for this purpose, including photographic (to

document the established pathological findings), radiographic (for visualization of bone abnormalities), anthropometric (fetal biometrics to determine the physical development of the fetus), macroscopic (external and internal) and microscopic examination of the fetus and placenta, and statistical (descriptive, variational, nonparametric, correlation, multifactorial and graphical) analysis of the data obtained. The original results of this group of experiments are reported in the two theses of the candidate, in a recently published monograph, in a number of scientific articles, as well as in some scientific communications (papers No. 1-4, 15-20, 23-28, 30, 33-36, 39-41, 46-89, 98-111). They have led to a reliable assessment of the risk of associated anomalies and the identification of independent predictors of their possible occurrence. The types of anomalies associated with neural tube defects and some of the risk factors for their occurrence have been identified. A number of malformations of the skeleton, internal organs and CNS are characterized morphologically, anatomically (ultrasound and magnetic resonance) and epidemiologically. The fetopathological and etiopathogenetic aspects of a number of syndromes associated with genetic disorders have been studied. Due to the great medical and social impact of congenital malformations, special attention is paid to the measures for their primary and secondary prevention. Last but not least, Kitova has justified the need for targeted fetal autopsy in cases of miscarriage, as well as the creation of a National Register of Congenital Malformations of the CNS, skeleton and internal organs.

The second main thematic focus in the scientific research activity of Assoc. Prof. Kitova is related to the elucidation of cerebral vascular morphology and pathology (papers No. 5, 22, 31, 42, 93, 94, 97, 98). The pioneering research achievements of these large-scale, interdisciplinary studies of a large team of specialists and their significance for clinical practice are summarized in the monograph "*Clinical Neuroanatomy*". The emphasis in this book is on the link between normal anatomical basis and possible neurological disorders, with additional detailed analysis of the features and type of CNS abnormalities and other associated malformations. Studies on vascular pathology have been extended to demonstrate extracranial arteriovenous malformations of the external carotid artery manifested by tumor-like symptoms (papers No. 22, 94, 97, 98), as well as anomalies and anatomical variations of other arterial and venous vessels, and also of certain nerves (*n. ischiadicus*) and muscles (papers No. 5, 33, 34, 65-74).

An interdisciplinary research team with the participation of Tanya Kitova described interesting

clinical cases of combination of degenerative vertebrogenic diseases in different parts of the spine with spinal cord tumors, and defined the diagnostic behavior for their simultaneous diagnosis (papers No. 14, 24, 26, 27, 35, 44).

Anthropological research on Bulgarian and Greek medical students has allowed Tanya Kitova to make an anthropometric characterization and comparison between different anthropometric indicators of people of different ethnicities (papers No. 21, 90, 96).

Kitova's scientific and academic contributions are in the field of monitoring and evaluating the quality of higher medical education with an emphasis on e-learning in medical universities (papers No. 15, 40, 50-52, 54, 58-62). A conceptual model of a "web-based information system for assessing the quality of education" in high schools with a focus on its design is presented and some social aspects of distance learning during the COVID-19 pandemic are considered.

The scientific achievements of the candidate, most of which are innovative, have found a worthy reflection in the Bulgarian and foreign literature. The attached list shows that 39 scientific papers of Kitova are cited a total of 58 times in scientific periodicals, of which 24 citations are in journals referred in Scopus or Web of Science, and 34 citations are in dissertations, monographs and peer-reviewed collective volumes. The total number of citations increased to 76 citations, together with the citations of her scientific papers with which she participated in a competition for the academic position of "Associate Professor". The reference in Scopus shows that 26 documents of Tanya Kitova are cited 18 times in 17 documents and that she has an h-index = 2.

Assoc. Prof. Tanya Kitova has rich experience in participation and implementation of research projects, as well as some editorial and expert experience. She has been the principal investigator of three university research projects and a member of the research team of one international project financially supported by the Alexander von Humboldt Foundation. Kitova has reviewed three manuscripts submitted for consideration for publication in international scientific journals.

In conclusion, I found that Assoc. Prof. Tanya Kitova has many years of teaching experience, possesses very good computer literacy and language skills, and has provided indisputable evidence of an established morphologist. She meets the formal requirements to be appointed a full professor according to the The Law on the Development of Academic Staff in the Republic of Bulgaria: she has the PhD and DSc scientific degrees, has held the academic position "Associate Professor" for 6 years and presents sufficient scientific publications beyond the ones for

occupation of the academic position Associate Professor, which have an original contribution to the nomenclature specialty and have become known to the scientific community in Bulgaria and abroad, reflected in positive citations of her works. Tanya Kitova has shown indisputable qualities of a project leader and executor of research projects, as well as scientific supervision of students, young scientists and PhD students, her expert activity is also indisputable. As can be seen from the attached table, the scientific asset and scientometric indicators of the candidate for professor cover the mandatory minimum national requirements and comply with all additional conditions and quantitative criteria for holding the academic position "Professor", according to Annex 8.3 of the Rules for Academic Staff Development in TrU-Stara Zagora in professional direction 7.1.

Medicine:

Group of indicators	Indicator	Mandatory quantitative criteria for holding the academic position professor (minimum number of points)	Scientometric indicators of Assoc. Prof. Tanya Kytova (verified number of points)
A	1. PhD thesis	50	50
B	4. Habilitation work – monograph	100	100
G	7. Publications in reports published in referred and indexed scientific publications 8. Publications and reports published in peer-reviewed non-referred journals or published in edited scientific event proceedings 9. Published chapter of a collective monograph	Total number = 200	Total number = 833 635.2 110.85 86.96
D	10. Citations or reviews in scientific publications referred and indexed in world-renowned databases with scientific information or in monographs and collective volumes 11. Citations in monographs and peer-reviewed collective volumes	Total number = 100	Total number = 700 360 340
E	13. DSc degree obtained 15. Acquired medical specialty 17. Participation in national scientific or educational project 20. Published university textbook or textbook to be used in the school network 21. Published university teaching manual or teaching manual to be used in the school network	Total number = 100	Total number = 110.9 40 40 20 3.33 7.57
Total number		550	1793.9

The analysis of the overall teaching and research activity of the candidate for professor gives me the inner conviction to conclude that she has the necessary professional traits including rich teaching experience, in-depth methodological training and very good language proficiency level, and to recommend to the members of the scientific jury to positively vote for the election of Associate Professor Tanya Todorova Kitova, MD, PhD, DSc, to the academic position "Professor" (0.5 FTE) in the field of higher education 7. Healthcare and sports, professional field 7.1. Medicine, in the scientific specialty "Anatomy, Histology and Cytology", for the needs of the Medical College to the Trakia University – Stara Zagora.

Sofia, 8 August 2021

Reviewer: 
(Prof. Nikolai Lazarov, MD, PhD, DSc)