

OPINION

from Prof. George Tzvetkov

Faculty of Chemistry and Pharmacy, Sofia University "St. Kliment Ohridski" of the materials submitted for the competition for the academic position of "Professor", professional field 4.2. "Chemical Sciences" (Inorganic chemistry), announced in the State Gazette № 96 / 19.11.2021

In the announcement by Sofia University "St. Kl. Ohridski" competition for the academic position "professor" at the Department of Inorganic Chemistry, the only candidate is Assoc. Prof. Dr. Penka Vasileva Tsanova. The set of materials presented in electronic form by Assoc. Prof. Tsanova is in accordance with the Law on the Development of Academic Staff in the Republic of Bulgaria (LASRB) and the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at Sofia University "St. Kl. Ohridski", and includes all necessary documents.

Assoc. Prof. Tsanova graduated in 1981 from the Faculty of Chemistry at Sofia University with a master's degree in Inorganic Chemistry. Assoc. Prof. Tsanova's scientific career took place almost entirely at Sofia University, where she started working in 1982 as a chemist. From 1989 to 2012 she was successively assistant, senior assistant and chief assistant at the Department of Inorganic Chemistry. She defended her dissertation on "Synthesis of silicon tetrachloride and fine rectification purification of silicon tetrachloride and some organic solvents" in 2003 and in 2012 was elected associate professor of inorganic chemistry at the Department of Inorganic Chemistry, FHF, Sofia University. It is evident that the accumulated teaching and scientific experience of Assoc. Prof. Tsanova is fully in line with the professional direction of the announced competition.

Assoc. Prof. Tsanova is the author / co-author of a total of 66 publications (articles in scientific journals, chapters from books and collections of scientific forums), 14 textbooks, teaching and methodological aids, 6 documented technologies. In addition, she has participated in 82 scientific forums and 34 research projects (two of which are international, funded by the European Union). Assoc. Prof. Tsanova's Hirsch index is 9. For the competition she has presented 36 scientific papers, of which 3 chapters from books, 19 publications in scientific journals, referenced and

indexed in Scopus and / or WoS, 11 textbooks, teaching and methodological aids for secondary school approved by the Ministry of Education and Science, as well as 1 habilitation thesis. The presented works were not used for obtaining the educational and scientific degree "Doctor" and for holding the academic position "Associate Professor". It is worth noting the articles published in Carbohydrate Polymers (IF = 4.811), Analyst (IF = 4.107), Molecules (IF = 4.412), Microchemical journal (IF = 3.034). The large number of publications (15) made in collaboration with students and PhD students is impressive. On the documents submitted for the competition, 153 citations (SCOPUS) were noticed out of a total of 374 citations of all publications of the candidate, noticed after the habilitation.

Attached is a reference for the implementation of the Minimum National Requirements and the recommended criteria of Sofia University for holding the academic position "Professor" in the professional field "Chemical Sciences". The distribution by indicators is as follows: indicator A - 50 points; indicator B - 100 points (recommended 100), indicator Г - 279 points (recommended 220), indicator D - 306 points (recommended 120), indicator E - 168.5 (recommended 150) and indicator Ж - 268 points (recommended 120). It can be seen that the scientometric data of Dr. Tsanova cover and in many cases - exceed the requirements.

A habilitation paper on "Design and characterization of new nanomaterials for special analysis of mercury, chromium and iron" and an author's report on the scientific contributions of the candidate's work are presented. The habilitation paper summarizes the main scientific contributions of 5 of the works of Assoc. Prof. Tsanova and essentially discusses optimized procedures for "green" synthesis of silver (Ag), gold (Au) and alloy (Ag-Au) nanoparticles in aqueous dispersions, immobilization of metal nanoparticles on the surface of pre-synthesized submicron SiO₂ spheres, incorporation of metal nanoparticles into the polymer matrix of biocompatible polymers chitosan or polyvinyl alcohol in order to obtain hybrid organic-inorganic nanocomposite films. Nanomaterials synthesized on the basis of predefined requirements are applied for efficient separation and / or quantification of chemical forms of the elements mercury, chromium and iron, and are incorporated as intelligent nanomaterials (sensors / sorbents) in validated analytical procedures for quality control. of the environment. The scientific contributions of Assoc. Prof. Tsanova have a strongly applied character and are a novelty in the fields of materials science, nanoanalytical chemistry and ecology.

The teaching and pedagogical employment of Assoc. Prof. Tsanova is significant. She currently leads four compulsory courses in chemistry, general chemistry, inorganic chemistry and general chemistry with stoichiometric calculations for students of bachelor's and master's degrees in FHF and BF, as well as exercises in general chemistry with stoichiometric calculations in chemistry and English. Assoc. Prof. Tsanova was the supervisor / co-supervisor of a total of 15 diploma students and was the co-supervisor of a defended doctoral dissertation. The great role of Assoc. Prof. Tsanova in the preparation of middle school students for their participation in the International Chemistry Olympiads must be mentioned. Since 2005 she has been the head of the Bulgarian team for participation in the International Chemistry Olympiad and a member of the international jury for its holding.

The presented materials on the competition and the contributions of Assoc. Prof. Dr. Penka Vasileva Tsanova show that her scientometric indicators meet and exceed the requirements for holding the academic position "Professor", defined in the Law on Development of Academic Staff in the Republic of Bulgaria and its Regulations , as well as the additional criteria of the Faculty of Chemistry and Pharmacy. Therefore, I give my positive assessment and I strongly recommend Assoc. Prof. Dr. Penka Vasileva Tsanova to take the academic position of "professor" in professional field 4.2. Chemical Sciences (Inorganic Chemistry) at the Department of Inorganic Chemistry of FHF at Sofia University "St. Kl. Ohridski "

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(Prof. Dr. George Tzvetkov)