

OPINION

regarding the candidacy of the Chief Asst. Dr. Rayka Kirilova Vladova for associate professor at the Institute of Chemical Engineering at the Bulgarian Academy of Sciences in the scientific specialty 4.2 "Chemical Sciences" (Processes and Apparatus in Chemical and Biochemical Technology" for the needs of the lab. "Innovative Processes and Systems Engineering" at the ICH-BAS by Prof. Dr. Venko N. Beshkov - member of the jury

The competition was announced in the State Gazette No. 77/10,09,2024.

Dr. Rayka Vladova graduated in 2010 as a bachelor in biotechnology from the University of Chemical Technology and Metallurgy in Sofia.

. She received a master's degree in 2013, and in 2017 she defended her dissertation for the educational and scientific degree "doctor" at the Institute of Chemical Engineering (ICH)-BAS in the specialty "Processes and Apparatus in Chemical and Biochemical Technology" on the topic "Increasing the Sustainability and Energy Efficiency of Production Systems with Periodic Processes on the Example of a System for Autothermal Thermophilic Aerobic Treatment (ATAD) of Wastewater". After that, she continued to work on a topic close to that of her dissertation.

Senior Assistant Professor Raika Vladova is an active researcher in the field of chemical engineering systems. She is presenting herself at the competition with 33 scientific papers. Three of them are in journals with quartile Q1; one in a journal with Q2; eleven with Q3 and three with Q4. Another 5 articles have been published on the dissertation, two of which are with quartile Q3. These 5 articles are outside the competition, but will be taken into account in the overall assessment of the candidate. 33 citations of 12 articles were noted. The Hirsch citation index is 4. The candidate's scientific output is distributed in the following main technological areas: wastewater treatment (papers 1-4, 8, 26); modeling and optimization of resource supply chains (4 11, 12, 15, 16, 20, 21-23, 28, 29); modeling and optimization of heat exchange processes (9, 10, 13, 14, 17, 18); study of the mechanical properties of nano-composites under external influences - mechanical stresses, temperature and electrical loads (papers 19, 24, 27, 30, 33). She has participated in 64 international conferences. She is the author of 2 chapters of monographic collections (one in co-authorship). She participated as a lead contractor in 5 scientific projects and was the manager of 2 projects, all funded by the Scientific Research Fund.

The candidate's sciento-metric indicators meet and even exceed the requirements of the Law, the regulations of the Bulgarian Academy of Sciences and the requirements of the ICH-BAS. Dr. R. Vladova is highly proficient in various mathematical methods for describing, modeling and optimizing a wide range of technological processes and the processes describing and managing resource-supply chains. Her scientific output, her applied activities and the personal qualities of Dr. Raika K. Vladova unequivocally show that she fully deserves to acquire the scientific title of 'associate professor' and to occupy the corresponding administrative position at the ICH-BAS.

Sofia, 06.01.2024

Signature:



Prof. Dr. Venko N. Beshkov