

## OPINION

Prof. Dr. Georgi N. Vayssilov

Faculty of Chemistry and Pharmacy of Sofia University

on the competition for Associate Professor in 4.2 Chemical Sciences (chemical kinetics and catalysis) for the needs of laboratory "Reactivity of solid surfaces" at the Institute of General and Inorganic Chemistry, BAS, announced in the State Gazette. 36 / 3.05.2019 with candidate Chief Prof. Stanislava Metodieva Antonova, PhD

Only one candidate applied for the Associate Professor position - Ch. Assis. Prof. Dr. Stanislava Antonova, who works at the Institute of General and Inorganic Chemistry, BAS.

Dr. Andonova graduated from the University of Chemical Technology and Metallurgy, Sofia, in 2001 as Chemical Engineer, Master of Chemical Technology, Technology of Inorganic Substances. During the period 2001-2004 she was a PhD student at the Institute of Catalysis at the Bulgarian Academy of Sciences and in 2005 she defended her Ph.D. thesis on the scientific subject "Chemical kinetics and catalysis". From 2005 to 2013 she worked as a senior assistant at the same institute, and since 2013 has worked at the Institute of General and Inorganic Chemistry. In the period 2011-2013 she specialized in the field of nitrogen oxides reduction as a post-graduate student at the Chalmers University of Technology in Sweden.

The scientific contributions of Chief Assis. Prof. Andonova are presented in 32 publications, of which 24 scientific papers are in impact-factor journals, 3 are patent applications, and 5 are publications in non-impact journals or conferences. Impact-factor articles are published in authoritative international chemical, physicochemical and catalytic journals such as J. Phys. Chem. C, Appl. Catal. B, J. Catal., Phys. Chem. Chem. Phys., Chem. Commun., etc. According to the presented documents, h index of Ch. Assis. Prof. Andonova is 11 as her publications are cited 384 times. The main part of the citations are in international journals.

The scientific publications of Ch. Assis. Prof. Andonova, presented for the competition, include experimental research with different methods of metal centers in zeolites, oxide surfaces or similar catalytic systems and ecological catalytic processes on them. In the documents for the competition the individual research problems are grouped on the basis of the catalytic / adsorption system and the relevant catalytic process. The

habilitation thesis describes the development and investigation of effective metal oxide catalysts used for NO<sub>x</sub> reduction by accumulating-reduction catalysis as well as metal-exchanged zeolites used as effective catalysts for selective catalytic reduction of NO<sub>x</sub> with ammonia. Another group of studies is directed to materials used as adsorbents for gas purification and selective separation of gas mixtures.

I highly appreciate the research included in the publications that are presented for the competition. The presented studies are original and are within the subject of the competition. The scientific results obtained can be categorized as novelty for science and the enrichment of existing knowledge. The results obtained are presented clearly, interpreted accurately and results of other authors described in the literature are taken into account. The analysis of the results has allowed the authors to show the peculiarities of the behavior of the studied samples.

I know the candidate personally, as well as her scientific publications and presentations in scientific forums. My personal impressions of her are very good.

In conclusion, Ch. Assis. Prof. Stanislava Metodieva Andonova meets all the requirements of the Law on the Occupation of the Academic Position Associate Professor, the specific values for Chemical Sciences set out in the Regulations for its application, as well as the requirements of the Institute of General and Inorganic Chemistry. The candidate is a specialist in the field of surface chemistry and heterogeneous catalysts. Based on the above, I propose Ch. Assis. Prof. Dr. Stanislava Andonova to be elected as Associate Professor at the Institute of General and Inorganic Chemistry, BAS.

26.08.2019

Prof. Georgi N. Vayssilov