

OPINION

of Assoc. Prof. Dr. Kristina Kostova Chakarova

Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences
(member of the scientific jury)

on the application of Assist. Prof. Dr. Ivaylo Georgiev Tankov
to occupy the academic position of Associate Professor in the higher education area
4. Natural Sciences, Mathematics, and Informatics, professional field 4.2. Chemical
Sciences, scientific specialty "Chemical Kinetics and Catalysis" at the University
"Prof. Dr. Asen Zlatarov" – Burgas

Assist. Prof. Dr. Ivaylo Tankov is the only candidate in the competition for occupying the
academic position of Associate Professor in the professional field 4.2. Chemical Sciences, scientific
specialty "Chemical Kinetics and Catalysis" at the University "Prof. Dr. Asen Zlatarov" – Burgas,
announced in SG, issue 95 of 16.11.

I. Submitted documents

To participate in the competition, Dr. Tankov has submitted all the necessary documents
required by the Act on Development of the Academic Staff in the Republic of Bulgaria, the
Regulations for its Implementation and the Regulations on the conditions and order for acquiring
scientific degrees and for holding academic positions at the University "Prof. Dr. Asen Zlatarov" –
Burgas.

II. Education and career development of the candidate

Ivaylo Tankov has received a Master's degree – Chemical Engineer in Organic Chemical
Technologies – in 2007 at the University "Prof. Dr. Asen Zlatarov" – Burgas. In 2014 the candidate
defended his Ph.D. Thesis entitled "*Preparation and characterization of catalysts for methane
reforming with carbon dioxide*" at the Institute of Catalysis – Bulgarian Academy of Sciences.

Immediately after obtaining the educational and scientific degree "Doctor", Ivaylo Tankov
began his teaching career at the University "Prof. Dr. Asen Zlatarov" – Burgas.

III. Teaching activity

From 2014 to 2015, Dr. Tankov held the position of Assistant and at the end of 2015 he was
appointed Assistant Professor at the University "Prof. Dr. Asen Zlatarov" – Burgas. Between 2014

and 2016, his teaching work includes laboratory exercises in the scientific disciplines of: (i) "Reaction kinetics and catalysis", (ii) "Organic synthesis technology", (iii) "Quantitative study of chemical reactions in petrochemical synthesis", (iv) "Renewable energy raw materials", (v) "Metal complex and interface catalysis", (vi) "Kinetic methods for reaction block selection" and (vii) "Fine organic synthesis". Between 2016 and 2020, in addition to the laboratory exercises in the above-mentioned disciplines, Dr. Tankov began to give lectures on "Reaction kinetics and catalysis" and "Organic synthesis technology". In addition to the lecture courses and laboratory exercises from previous years, in the 2020/2021 academic year the candidate has additional courses in "Engineering solutions for clean and safe technologies", "Chemical reactivity" and "Organic chemical technologies". During the 2021/2022 academic year, Dr. Tankov is already giving lectures on all the disciplines listed so far, with the exception of "Metal complex and interface catalysis".

Dr. Tankov has participated in the processes of curricula renewal and/or development for all scientific courses he has taught.

The candidate has been a supervisor of four graduates who defended their diploma theses at the University "Prof. Dr. Asen Zlatarov" – Burgas.

IV. Scientometric indicators of the candidate

The candidate's complete list of publications includes 33 scientific articles, 31 of which have been published in journals with impact factor and 2 in conference proceedings.

Dr. Tankov participates in the competition with 15 scientific publications, published between 2017 and 2022 and not included in the candidate's Ph.D. Thesis for the educational and scientific degree "Doctor". The scientific publications are distributed in the different indicator groups of the University "Prof. Dr. Asen Zlatarov" – Burgas minimum requirements for acquiring scientific degrees and for holding academic positions as follows:

(i) **publications included in the indicator group "C"**: 4 in journals with quartile Q1 and 1 in a journal with quartile Q2.

(ii) **publications included in the indicator group "D"**: 4 in journals with quartile Q1 and 6 in journals with quartile Q2.

A registered utility model is also assigned to **the indicator group "D"** (Reg. № 4077 U 1 of 30.01.2021 with first validity period 26.05.2025).

The total number of Dr. Tankov's citations is 136 (according to data from Scopus at the time of submission of his documents) and for participation in the competition, *in indicator group "E"*, the candidate presents 72 citations of his scientific papers for the period 2013 – 2020.

In the indicator group "F" Dr. Tankov has declared participation in 1 international and 3 national research projects, as well as co-authorship in a textbook published in 2018 for the needs of the University "Prof. Dr. Asen Zlatarov " – Burgas.

Dr. Tankov has participated in 5 scientific forums, 2 of which were international.

V. Habilitation work and scientific contributions in the works of the candidate

To participate in the competition, in indicator group C of the minimum requirements of the University "Prof. Dr. Asen Zlatarov " – Burgas for acquiring scientific degrees and for holding academic positions, the candidate has submitted 5 scientific publications, which are equivalent to Habilitation work. They are focused on development and characterization of new active and stable homogeneous and heterogeneous catalysts for esterification – main process for obtaining valuable components for the pharmaceutical, perfumery, food and petrochemical industries. This determines the scientific and practical significance of the research included in the Habilitation work. The original scientific contributions in the presented publications are described in the Author's Report of Dr. Tankov. They are related to the detailed study of ionic liquids and include: *(i)* analysis of surface phenomena occurring in heterogeneous ionic liquids, *(ii)* study of the kinetics of thermal decomposition of ionic liquids, *(iii)* preparation of new ionic liquids and study of their composition and structure and *(iv)* investigation of new ionic liquids as effective catalysts for esterification.

VI. Information on the fulfilment of the minimum requirements of the University "Prof. Dr. Asen Zlatarov" – Burgas for holding the academic position of Associate Professor

In groups of indicators A-D, the candidate not only meet, but also significantly exceed the minimum requirements of the University "Prof. Dr. Asen Zlatarov " – Burgas for holding the academic position of Associate Professor. In the group of indicators E, Dr. Tankov collects 70 points from the required 100 points. However, given that the Regulations for the Implementation of the Act on Development of the Academic Staff in the Republic of Bulgaria do not require candidates for the academic position of Associate Professor to have points in this group of indicators and taking into account that in the other indicator groups Dr. Tankov collects significantly more points than the

minimum requirements, I think this is not an obstacle to his successful performance in this competition.

VII. Personal impressions

I have personally known Dr. Ivaylo Tankov since the time when he was preparing his Ph.D. Thesis at the IC-BAS and I have excellent impressions of his scientific work, skills and expertise. My further communication with him in the framework of various activities organized by the Bulgarian Catalysis Society, of which we are both members, confirmed my opinion that Dr. Tankov is a very well-trained and highly qualified specialist.

CONCLUSION:

Taking into account the scientific contributions and achievements of the candidate and the over-fulfilment of the criteria for holding the academic position of Associate Professor, specified in the Act on Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its Implementation, I recommend Assist. Prof. Dr. Ivaylo Georgiev Tankov to be elected to the position of Associate Professor in the professional field 4.2. Chemical Sciences, specialty "Chemical Kinetics and Catalysis" at the University "Prof. Dr. Asen Zlatarov" – Burgas.

25.02.2022

Signature:

/Assoc. Prof. Dr. Kristina Kostova Chakarova/