

Report

concerning the materials submitted to apply for the academic position of

'Associate Professor'

in the Institute of Chemical Engineering, Bulgarian Academy of Sciences

professional field

4.2. Chemical Sciences (Unit Operations in the Chemical and Biochemical Technology)

for the needs of "Transfer Processes in Multiphase Media" research laboratory

In the competition for "Associate Professor" announced in the Newspaper of State, issue. 37, of May 07, 2021 and on the website of IChE - BAS, the only candidate is

Dr Eng. Dimitar Nikolaev Kolev

Reviewer: Dr. Iren Hernani Tzibranska-Tzvetkova, professor in IChE-BAS

General characteristics of the candidate's research and applied research activity

The materials presented by Dimitar Kolev are in accordance with the Rules for the Development of the Academic Staff of IChE and meets the criteria of IChE-BAS for the academic position of "Associate Professor". This is proved by the attached reference for fulfillment of the minimum national requirements under Art. 2b, para. 2, 3 and 5 of the Law on the Development of the Academic Staff in the Republic of Bulgaria for holding the academic position "Associate Professor".

The candidate has applied a total of 18 papers in scientific journals, 9 full-text publications in conference proceedings and 10 patents. The publications presented in scientific journals and conference proceedings are from the period 1993 - 2014. The list of scientific publications equated to a habilitation thesis includes 6 (six) articles in the field of packed columns, published in Chemical Engineering and Processing: Process Intensification (4) and Bulgarian Chemical Communications (2). Another 6 publications are presented as referenced and indexed in world-known databases of scientific information (Web of Science and Scopus) outside the habilitation thesis.

The candidate has a qualification of mechanical engineer (specialty "Heat and mass transfer equipment"). In IChE-BAS he worked as a technologist (1990-1994) and in the period 2001-2005 as a PhD student in independent training, where he obtained his doctorate in professional field 02.10.09 „Unit Operations in the Chemical and Biochemical Technology“ (2005). Dr Kolev has a pronounced applied scientific activity, as proved by 10 patents and participation in 5 implementations. For the last 10 years he has been working as a technical director in Trade&Technology Company.

Evaluation of the submitted materials

The candidate has published in renowned journals in chemical engineering or related to the field, which is evidenced by the data presented on the quartiles of the respective journals: Chemical Engineering and Processing: Process Intensification, Chemical Engineering Transactions, Journal of Environmental Protection and Ecology, Applied Thermal Engineering; among the journals published in Bulgaria there are publications in Journal of Chemical Technology and Metallurgy, Bulgarian Chemical Communications, Comptes rendus de l'Académie bulgare des Sciences. In the presented general list of publications, Dr Kolev is the first author in 6 of them.

The pedagogical activity of the applicant can be assessed as modest – Dr. Kolev has been a part-time lecturer at the University of Mining and Geology "St. Ivan Rilski" Sofia in 2010-2012.

Contributions (scientific, applied) and citations

The scientific research and contributions of Dr. Kolev are of applied nature in the field of: packing elements and characterization of highly efficient packing; characterization of a lamellar heat exchanger construction; calculation of the characteristics of a new gas turbine cycle; method and installation for processing of municipal waste by incineration.

D. Kolev has presented a total of 70 citations of his scientific publications and 21 citations of his patents (respectively 54 and 17 for participation in this competition). According to Scopus his h-index is 7.

Critical remarks and recommendations

My critical remark concerns the quite remote period of the publications.

Personal impressions of the candidate - I don't have any.

Conclusion

The candidate covers the required criteria of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for implementation of the latter in the Bulgarian Academy of Sciences and especially the ones for IChE-BAS concerning the academic position "Associate Professor". I appreciate the opportunity Dr. Kolev to be effectively involved in the scientific topics and research activities of ICH-BAS.

Based on the review of the submitted materials, I believe that I have grounds to support the candidacy of Dr. **Dimitar Nikolaev Kolev** for the academic position of "**Associate Professor**" at IChE-BAS in the professional field **4.2. Chemical sciences (Unit Operations in the Chemical and Biochemical Technology)**.

01.09. 2021 г.

Prof. Dr Iren Tzibranska-Tzvetkova