

STATEMENT

From Prof., Dr. Vasilij Nikolaevich Goltsev

on the materials submitted for application in the procedure for Associate professor
in the Institute of Organic Chemistry with the Centre of Phytochemistry, BAS
in professional field

4.2, Chemical Science

scientific discipline

“Bioorganic chemistry, chemistry of natural and physiologically active compounds”

1. General presentation of the procedure and the applicant

In the procedure for Associate professor announced in the Bulgarian State Official Journal, 43/31.05.2019 the documents are submitted by Kalina Danova, Senior Assistant professor, Laboratory Chemistry of Natural Compounds, Institute of Organic Chemistry with Centre of Phytochemistry, BAS.

The set of electronic materials presented by Dr. Kalina Danova is in accordance with the Regulations for the development of the academic staff of IOCCP rules, and meets the criteria of IOCCP-BAS for the occupation of the academic position "Associate Professor"

Dr. Kalina Danova's entire scientific output is reflected in 46 scientific papers, and in the competition procedure she participates with a total of 21 scientific papers, representing 18 articles in renowned scientific journals (7 of which are included in habilitation proceedings) and 3 book chapters. 21 non-dissertation scientific papers were accepted for review and reported in the final evaluation, as well as 14 research projects. The distribution of scientific papers according to the corresponding Q coefficients is as follows Q1 - 5 pcs., Q2 - 5 pcs., Q3 - 2 pcs., Q4 - 6 pcs. Other documents are not classified by Q factors. All of these publications are provided with copies of full texts and links to relevant sources. In the Habilitation report, the applicant lists an additional list of 25 scientific papers, some of which are publications related to her doctoral thesis, as well as reports and posters presented at national and international conferences and published in scientific forums. This part of the work will not be considered in the review, since they are not provided with copies of the full texts of the works.

Kalina Danova obtained her Master's Degree in Pharmacy in 2000 from the Faculty of Pharmacy, Medical University, Sofia, and in 2010 completed her PhD at the Department of Plant Physiology at the Faculty of Biology at Sofia University "St. Kliment Ohridski", defending a doctoral thesis on the topic: "*In vitro* cultivation and secondary metabolites in species of the genus *Hypericum* and *Pulsatilla*, cryopreservation of *Hypericum rumeliacum* Boiss." After completing her doctorate, Dr. Kalina Danova began working as a chemist and after a year as a senior assistant at the Institute of Organic Chemistry. Her activity is entirely fits the topic of the position.

2. General description of the applicant's activities

Of the 21 publications related to the competition, 18 are articles in scientific journals, 13 of which are in reputable journals with IF (total IF 17.55), and 3 are chapters in specialized books. The Danova's researches have been published in renowned international journals, including J. Pharmaceutical Sci., Phytochem., Plant Growth Regulation, Plant Cell Tissue and Organ Culture, J. Plant Growth Regulation, Natural Product Res., Natural Product Communications, Chemistry & Biodiversity, Biochemical Systematics and Ecology as well as in reputable Bulgarian journals – Comp. rend. l'Académie bulgare des Sci., Bulgarian J. Agr. Sci., and J. Bioautomation. Dr. Danova's research is well known in the world of science. They have been presented at 56 national and international scientific forums with 13 lectures, 4 of which are plenary, 6 oral and 75 poster presentations) and have a significant impact on the development of research in the field of chemistry of natural compounds, phytochemistry, etc. plant tissue and others, as evidenced by a total of 56 citations to her publications. According to Skopus, Hirsch's index in K. Danova's publications is $h = 5$.

Dr. Danova, without co-authors, publishes 3 extensive reviews, and the remaining publications are in a team with three or more co-authors, in 5 of them she is the first, and in 12 - a corresponding author, which testifies to the significant contribution of Kalina Danova in all stages of the publishing process.

In addition to publications, Dr. Danova organizes and presents her research activities through development and participation in research projects. Within the impressive 14 projects, 11 are international or are being developed in the framework of bilateral inter-academic cooperation, and in 6 of them she is the leader or coordinator on the Bulgarian side.

Due to the increasing human anthropogenic pressure on nature, the risk of disturbing species diversity in the biosphere has increased significantly in recent decades. Kalina Danova's research and applied research aim to harmonize human interaction with the plant world, which can significantly prevent the extinction of unique and rare plants, while increasing their use as sources of important and essential for natural compounds. From this point of view, Danova's research is extremely relevant and important not only in scientific and applied terms, but also in the conservation of biodiversity in nature.

The thematic focus of the research and the applicant's contributions include three main areas. The first is related to the methodological aspect of the work and involves the development and optimization of conditions for in vitro cultivation of plants, which is necessary for the creation of collections of herbs and aromatic plants collected from various natural sources. In the second, fundamental direction, the influence of the factors of the culture medium on the functioning and metabolic profile of the plant cell is investigated in order to find the optimal conditions for obtaining maximum productivity. The third area is related to the possibility of practical application of the optimized schemes for biotechnological production of the necessary secondary metabolites. All researches of Dr. Kalina Danova are completely consistent with the topic of the requested position.

3. Critical comments and recommendations

It is a pleasant impression that the candidate for the position has a clear vision of the opportunities and prospects not only for her continuation but also for the development of her research activity. I would recommend her to plan the use of some biophysical non-destructive approaches for monitoring and evaluating the condition of plant culture state, which could facilitate and accelerate the finding of optimal conditions for their cultivation.

CONCLUSION

The only candidate in the competition for the position of associate professor in the professional field 4.2. Chemical Sciences and Scientific Specialty "Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances" – Ass. Prof. Kalina Danova, PhD, submitted sufficient in number, quality and scientific importance scientific and applied production, which demonstrates that she is an established, internationally recognized scientist with high competencies and contributions in the scientific fields chemistry of natural compounds, phytochemistry, plant tissue cultures and micropropagation of plants. All this gives me a good reason to vote positively in the election of Ass. Prof. Dr. Kalina Moneva Danova for the academic position of Associate Professor in the professional field 4.2. Chemical Sciences and Scientific Specialty in Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances at the Institute of Organic Chemistry with the Center for Phytochemistry, BAS.

10 September, 2019.

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Prof. Dr. Vasilij Goltsev