Attitude of Reviewer

on competition for occupation of the academic position of "professor" in the professional field 4.2. Chemical Sciences (Inorganic Chemistry) for the needs of the Laboratory "Intermetalides and Intercalation Materials" at the IGIC-BAS, announced in SG. 36 / 03.05.2019

Candidate: Assoc. Prof. Violeta Koleva, PhD – IGIC-BAS

Member of the Scientific Jury: Assoc. Prof. Vladislav Kostov, PhD – IMC-BAS

The only candidate for the competition is Assoc. Prof. Dr. Violeta Koleva from the Laboratory "Intermetalides and Intercalation Materials" at the IGIC-BAS.

To participate in the competition, Dr. V. Koleva submitted 41 scientific publications for the period after taking up the academic position of Associate Professor (2007), one of which is an overview. Thirty-nine of the articles were published in Impact Factor magazines, 36 of which were in international magazines and 3 in national magazines. The articles are ranked according to the current rules of four quartiles, as follows: 21 articles with Q1; 6 articles with Q2; 11 articles with Q3; 2 articles with Q4. Among the renowned international journals in which the candidate published are: *Journal of Alloys and Compounds; European Journal of Inorganic Chemistry; Materials Chemistry and Physics; Journal of Materials Science; Dalton Transactions; Materials Research Bulletin; CrystEngComm; Journal of Physical Chemistry C; RSC Advances; Physical Chemistry Chemical Physics* etc. The publications have found a very good response in the international scientific literature, cited over 530 times after the period of habilitation 2008-2019 (reference is made only by Scopus). In 17 articles Assoc. Prof. V. Koleva is the first or corresponding author. The personal contributions to the submitted publications are correctly stated in the copyright report. The candidate's scientometric indicators meet and exceed the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and of the effective regulations for its implementation, including the additional requirements laid down in the Regulations of the IGIC-BAS for occupying the academic position of "Professor".

An important part of the research of Associate Professor V. Koleva falls into the current, fast-growing and extremely competitive worldwide scientific field related to the global problem of energy conservation. In the search for and the introduction of new high-power, low-cost, human-friendly and environmentally friendly electrode materials, the candidate's experience in the synthesis and crystal chemistry of inorganic salts extends the topic of the Laboratory where she works and focuses the researchers' efforts on a new topic, namely "Phosphate salts as electrode materials in environmentally friendly rechargeable batteries". In this regard, the main scientific contributions of Associate Professor V. Koleva are related to: (i) development and optimization of new methods of "soft chemistry" for the synthesis of electrochemically active lithium and sodium phospho-olivines; (ii) complex characterization of the target phosphate salts by applying a set of diffraction, spectroscopic, thermal and microscopic methods. The candidate has further achievements in the following areas: (1) Vibration characteristics of salts with strong hydrogen bonds: correlations of the type - spectral characteristics - structure; 2. Synthesis and characterization of electrochromic thin films based on manganese and vanadium oxides; 3. Synthesis and characterization of nickel hydroxides as electrode materials for supercapacitors.

The candidate has participated in a total of 15 Bulgarian and international scientific projects and contracts, being the leader in three of them. She was the scientific adviser of 3 successfully defended PhD students, two of whom are citizens of the Republic of Northern Macedonia. The number of scientific forums with its participation is impressive - 72 for 12 years.

Documents attached to the competition reveal Associate Professor Violeta Koleva as a team scientist with a steady interest in the field of crystal chemistry of inorganic salts, oxides and hydroxides and methods for the synthesis of new functional materials such as those for energy conservation. In her practice, she has developed professional observational skills and the ability to analyze experimental results in order to optimize the methods of obtaining high quality products with desirable properties and design. The efforts in this direction have been supported by the acquired at high level by her methodological apparatus for complex characterization of both precursor reagents and target products (Infrared and Raman spectroscopy; thermal analysis; X-ray diffraction analysis combined with the Rietveld method, etc.). My conviction in the candidate's experience and know-how is sufficient to justify, in the future, the possibility of developing patent activity in an area where she has gone so deep.

In conclusion, I express my conviction that the level of scientific and research activity and scientometric indicators of Assoc. Prof. Dr. Violeta Koleva fully meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria and all the legal regulations for its application for the occupation of the academic position of professor. I recommend that the members of the Scientific Council of IGIC-BAS vote for the award of the academic position of "professor" in the professional field 4.2. Chemical Sciences (Inorganic Chemistry) for the needs of the Laboratory "Intermetalides and Intercalation Materials" at IGIC-BAS of Assoc. Prof. Dr. Violeta Koleva.

Member of the Scientific Jury:

/ Assoc. Prof. Vladislav Kostov /