

OPINION

According to competition for the academic position of **associate professor** in the scientific field 4.4. **Earth Sciences** (Applied mineralogy , innovative construction materials)

announced in the "State Gazette", no. **58** / July 23, 2022

Candidate: (*chief assistant, PhD, Alexander Nikolaev Nikolov, IMC - BAS*)

Member of the Scientific Jury: (*Professor, Dr. Thomas Noubar Kerestedjian , GI - BAS*)

1. General characteristics of the presented materials - monographs, articles and reports, textbooks, certificates and patents, scientific research projects, etc. It is assessed whether the quantitative indicators of the requirements of IMC-BAS for occupying the academic position have been met. The scientometric indicators (total number of articles, articles with an impact factor, citations), reduction of articles, etc. are indicated.

The author's stated total number of articles, after the dissertation work (i.e. which are counted for the academic position "associate professor"), is 24. Of these, 22 appear in the reference for fulfilling the minimum criteria. Publications in journals with IF or SJR among them are 7, but a significant part of them have a low citation factor . This is also the reason for the candidate's relatively low Hirsch index. The general impression is that considerable effort is "wasted" in poorly read publications and conference proceedings that are rarely cited. The result of the poor selection of journals is obvious: only 9 of all publications are cited at all. Out of a total of 135 citations, 115 are across 2 publications in impact journals, with only one of them carrying 91 citations. The latter, however, is a significant achievement, indicating that the author is able to offer research results of high value to the scientific community. With the right choice of journal, these results can reach a wide readership and contribute to the development of the chosen scientific field (and also to the career development of the author).

That being said, the minimum criteria are undoubtedly covered and exceeded due to the fact that the law tolerates poorly cited publications when they are referenced and indexed in established databases.

I would like to note that one of the publications that modestly hides in the list is actually a book and is essentially a monograph based on the results of the dissertation work. I have read it with interest, and find this work worthy of due attention.

The candidate actively participates in the implementation of projects from the IMC plan. Over the past 5 years, he has led 3 projects on his own topics and is a participant in 3 more projects on the topics of colleagues from the unit.

2. General characteristics of the candidate's scientific, scientific-applied and pedagogical activities (scientific fields and problems; prepared doctoral and graduate students).

The candidate's scientific research is clearly profiled in the field of geopolymers - a modern and very promising scientific direction in which he has made visible contributions. Whether these contributions are scientific or scientific-applied is difficult (and pointless) to determine, because especially in this scientific field, such a boundary practically does not exist.

I did not find data on the applicant's pedagogical activity in the attached materials, but from a certificate of donation to the "Earth and Men" museum it is clear that he led field training for 7th grade students. "Praise to such citizens" ☺.

3. Basic scientific and/or scientific-applied contributions with an assessment of the extent to which they are the candidate's personal work. Specific facts and analytical judgments of the contributions are required, which are characterized as: formulation or justification of a new scientific field or problem, a new theory or hypothesis; enrichment of existing knowledge and theories; application of scientific achievements in practice and realized economic or other effect.

The author's statement of contributions clearly and accurately reflects the results achieved, which are undoubtedly the personal work of the candidate. I do not undertake to categorize them in any of the categories proposed in the rules, because in the process of obtaining scientific knowledge there are no such boundaries. I will only note that all author's claims are completely justified.

4. Critical notes and recommendations on the works presented.

The author has gone deeply into the specifics of the chosen scientific field and the presented results of his scientific research are correct and valuable. I will only note that products obtained by thermal treatment (calcination) are more correctly called ceramics or another appropriate term, while the term geopolymer remains reserved for products consolidated at ambient temperatures, where their characteristic amorphous state of the binder is preserved. When (on calcination) it passes into crystalline phases, the product loses its most characteristic specificity.

5. Reasoned and clearly formulated conclusion (which candidates do not meet the requirements of the IMC-BAS Regulations for occupying the academic position; if there is more than one candidate who meets the requirements, the candidates should be ranked first, second, etc.) .

The candidate is an established researcher, clearly profiled in an interesting and promising scientific field, in which he has recognizable achievements. The fact that he has a clear vision of how and in which directions to continue his research is also clearly visible. I recommend to the respected scientific council of IMC - BAS to appoint the candidate to the position of associate professor. I will vote in favor of this proposal.

Date November 4, 2022.

Prepared by: T. Kerestedjian