

Attitude of Reviewer

Институт по информационни
комуникационни технологии
Вх. № 1013 / 15.10. 2019

- by: PENCHO GENOV MARINOV, Assoc. Prof., IICT - BAS
(Institute of Information and Communication Technologies)
Section "Parallel Algorithms"
- in: the competition for academic appointment "Professor",
Field of Higher Education 4. "Natural Sciences, Mathematics and Informatics"
Professional field 4.5 "Mathematics", Scientific Specialty 01.01.13
"Mathematical Modelling and application of mathematics (in ecology)"
- for: needs of the Department of Scientific Computations, IICT – BAS
the competition was announced in the Newspaper of State, No.49/21.06.2019.
- with the sole candidate associate professor, Dr. KRASIMIR TODOROV GEORGIEV,
Department of Scientific Computations, IICT-BAS.

1. Grounds and general description of the materials presented

By Order No.209 / 16.08.2019 of the Director of IICT at Bulgarian Academy of Sciences, Prof. Galia Angelova, pursuant to Article 4, Paragraph 2 of the "Law on the Development of Academic Staff in the Republic of Bulgaria" and Decision of the Scientific Council of IICT-BAS (Protocol No.7 / 10.7.2019) I have been appointed a member of the Scientific Jury under procedure described above. As a member of the Scientific Jury on 29.08.2019 I received on CD all documents described at the end of the applicant's request to the Director of IICT-BAS: / As before the list (1) - (12) it is specified the number of CDs-7 and the documents in print - 1 number/ (1) Curriculum Vitae in European format; (2) Copy of the diploma for the educational and scientific degree "doctor"(PhD); (3) Certificate of Internship in the specialty; (4) List of scientific publications for the competition which do not include those for the acquisition of the educational one and a PhD degree and to hold the academic position of Associate Professor; (5) List of citations; (6) Abstracts of the scientific publications for participation in the competition - in Bulgarian and English; (7) Copies of all publications for participation in the competition; (8) Information for fulfillment of the minimum national requirements under Art. 2b, para 2 and 3 and the requirements of the ICT under Art.2b, para 5, made on the basis of the documents submitted for the competition; (9) Reference to original scientific and applied scientific contributions; (10) Declaration on the absence of duly proven plagiarism in scientific works; (11) Evidence under item (8); (12) List of selected scientific publications of the applicant for the entire period of work at BAS.

According to the normative documents: Law on the Development of Academic Staff in the Republic of Bulgaria (LDASRB), Rules for the implementation of the LDASRB, Rules for the conditions and procedures for obtaining degrees and loans of academic positions at BAS, also Rules on the specific conditions for obtaining academic degrees and for the occupation of academic positions at IICT-BAS, the candidates for the occupation of the academic position "Professor" must meet the following conditions: (1) have obtained a doctorate degree in education and science (PhD degree), which for the specialty in the regulated professions must be of the same specialty; (2) have held the academic position of "Associate Professor" at the same or another higher education institution or scientific organization not less than two academic years or not less than five years: a) they were teachers, including part-time students, or members of a research team in the same or at another higher education institution or scientific organization, or (b) have pursued an artistic endeavor, or c) have been practitioners and have proven track record in their

field; (3) have submitted published monographs or equivalent publications in specialized scientific fields publications or evidence of relevant artistic achievement in the field of the arts, not repeating the "doctorate" submitted for the degree, the degree of Doctor of Science and the occupation of the academic position of Associate Professor; (4) have submitted other original research papers, publications, inventions and other scientific and applied developments or artistic achievements that are evaluated in aggregate; (5) meet the minimum national requirements under Art. 2b, para. 2 and 3, respectively, of the requirements of art. 2b, para. 5; (6) not to be legally plagiarized in scientific works.

According to the submitted documents, it is evident that Associate Professor Krasimir Georgiev:

- Has a PhD thesis – dissertation for a doctoral degree (Diploma No.14193 / 12.12.1984, by the Higher Administrative Court (HAC) at the Council of Ministers (the State Committee for Science and Technical Progress), Commission 07, Protocol No.9 / 27.11.1984)
- Takes the academic position of Associate Professor ("Senior Associate in Second Degree") - The Service Note (Ex. No.606 / 02.07.2019) shows that he has a total of 42 years of service, of which as research associate I degrees and associate professor 31 years and 8 months.
- Participated in the competition with 51 publications (list, their abstracts in Bulgarian and English, the publications themselves in a separate directory). Listed: 52 citations to 24 of the publications. / according to (4) and (5) of the enclosed materials /
- Participates and / or is a leader in numerous national and international projects, presenting a list of projects and relevant evidence - assurances from project managers in which the applicant is a participant and a statement of projects in which Associate Professor Kr. Georgiev is the leader. /according to (8) and (11) of the attached materials/

2. Assessment of papers and other activities, taking into account the fulfillment of minimum requirements of the IICT – BAS.

We limit ourselves to the requirements of IICT (according to Art. 2-b, para 5 of ZRARB), because the national requirements (from the previous para 2 and para 3) and those of BAS are not stronger.

2.1 Indicators (3-4 and 5-10) of publications (Groups "V" and "G" respectively)

For publications equivalent to monograph work the requirement is 100. Out of the 5 publications numbered B4-1 through B4-5, Annex (4) scores 100 points: All are visible in SCOPUS and three are visible in WoS as " book series ". In the materials of (8), one is omitted but not needed for NACID because the points are different.

For publications outside the equivalent of monograph work, the requirement is 260. Of the 46 publications submitted, 1941 points were collected according to the candidate (1400 points according to the writer of this opinion). The reason for the difference is that the applicant used the NACID scale for the cost of publications, on the one hand. On the other hand, 5 of the publications listed with SJR are also visible in WoS and are from Q4. There is one group of 8 publications with IF (5-Q1, 1-Q2, 2-Q4) that are an Preface to a conference paper (they also carry 5 citations), for which the reviewer may have claims, but their influence on the points are insignificant.

In total for publications, the candidate gives the grouping (13, 3, 1, 5, 25, 4) for (Q1, Q2, Q3, Q4, SJR, Other), and the reviewer gives (13, 3, 1, 10, 20, 4). Like "Others" there are 3 book chapters and 1 – "open access".

2.2 For the quotation indicator (11) the requirement is at least 140 points. Of the 52 citations visible in Scopus in 24 publications according to the candidate, 416 points (52 * 8) were scored. The author of this opinion received other points after using a weight of 6 rather than 8 points and eliminated some technical errors - 282, and the number of articles cited was 21. The applicant has made an effort to look at the citations in more detail and found that 16 are IF (Q1).

In the examination of the participation of the cited in the previous procedures - no such were found. Four publications from previous procedures, but not from the list for this competition, collected 12 citations that did not participate in previous procedures. Scopus reference by author Kr. Georgiev also published the h-index 4 for the citations of 67 articles (with the exception of self-citations) total 52, in 22 articles. These numbers differ from those given by the applicant, but on the other hand they are not required in the documents, but only show that Assoc. Prof. Krasimir Georgiev significantly exceeds the minimum requirements, incl. what it is submitted for the competition.

2.3 For activity indicators (12-20), the requirement is at least 150 points. The candidate has submitted information and evidence for the competition on indicators 14-18 for the competition, with points being 590, which is almost four times the minimum requirements. The score for these indicators is: $6 * 10$ (item 14) + $10 * 20$ (item 15) + $4 * 20$ (item 16) + $5 * 50$ (item 18) = 590 points.

3. Analysis of contributions.

I fully agree with the candidate's achievements.

- Analysis of the process of transfer of polluted water in porous media and removal of pollutants in them.
- Numerical modeling and computer simulations of the processes during the transport of contaminated water using available experimental data. Visual MODFLOW computer code. Test simulations.
- Analysis of the data obtained from the test simulations for the biochemical oxygen demand (Biochemical Oxygen Demand) in horizontal subsurface wetlands.
- A simplified numerical model for the simulation of geothermal effects in the processes under consideration in porous media is developed.
- Determining the upper and lower bounds of the uncertainty accounting solution in some of the input parameters by solving a system of nonlinear partial differential equations.
- Mathematical and computer modeling of airborne contaminant transfer processes. The relationship between air pollution and climate change. Simulations on different types of supercomputer architectures.
- Mathematical and computer modeling of processes and phenomena in mechanics, medicine, etc. with computer experiments on parallel computer architectures.
- Research on Richardson extrapolation and Runge-Kuta methods in solving important problems in computational practice.
- Studies related to tasks arising from seismic construction mechanics. A computational approach for reconstruction is presented (reinforcement) of existing reinforced concrete structures (RC).

4. Critical notes, praise and recommendations.

The recommendation is that the cited articles are in chronological order, and the cited articles are also. The documents scanned on the CD have some incompleteness (item 11 from the list), but on the paper version everything is fine. The preceding paragraphs of this opinion also mention some slight inaccuracies in the documents submitted, but this is rather to prove that the reviewer has read the material in detail.

I have no critical remarks, which would call into question the contributions of the applicant and which would affect my positive assessment at the end of my review.

5. Personal impressions for the candidate and other data not mentioned in the previous points.

I have known candidate Krasimir Georgiev for over 40 years. Not only as a scientist at the Bulgarian Academy of Sciences, but from our student years. Our offices are adjacent, long time we were on the same extension phone number. I have great experience with his competence and his ability to work in a team and to pass on the experience and knowledge gained to others.

The previous points do not mention some of the candidate's information, so here I will mention: on command of foreign languages, besides English, he also speaks Italian and Russian; he has also held senior positions at IICT-BAS and its previous institutes, including two terms "Deputy Director", Chairman of the General Assembly of Scientists at IICT, Chairman of the Attestation Committee, member of the General Assembly of BAS, member of the Expert Committee on mathematics and informatics at the Research Fund.

6. Conclusion.

Considering that: the applicant has sufficient scientific and applied contributions; the achievements are publicized in sufficient and high quality publications among the scientific community, there are sufficient citations, including in Impact Magazines and specialized international publications; impressive participation and leadership in national and international research projects - and all the requirements are met, conditions and criteria under: *Law on Academic Staff Development in the Republic of Bulgaria, Rules for the Implementation of the LDASRB, Rules of Procedure for the Acquisition of Degrees and Lending of academic positions at BAS, also Rules for the specific conditions for acquiring degrees and loans of academic posts in ICTT.*

This leads me to the following conclusion:

I give a positive assessment of the materials with which the applicant participates in the competition for professor. I recommend the members of the Scientific Jury, and then to the Scientific Council at IICT-BAS to select associate professor Dr. Krasimir Todorov Georgiev to take the academic position "professor", Area in higher education 4. "Natural sciences, mathematics and informatics", professional field 4.5. "Mathematics", Scientific Specialty 01.01.13 "Mathematical Modelling and application of mathematics (in ecology)" for needs of the Department of Scientific Computations, IICT - BAS

14.10.2019
Sofia

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/ Pencho Marinov /