OPINION

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Concerning scientific works submitted for participation in competition
for awarding the academic position of "Professor"
in the field of higher education 5. Technical Sciences,
professional field 5.3. Communication and Computer Engineering,

Candidate: Assoc. Prof.: Hristo Georgiev Valchanov, PhD

1. **General characteristics of the candidate's research and scientific-applied activity.**

According to the current competition for the academic position of "professor" in higher education field 5 "Technical sciences", professional direction 5.3 "Communication and computer technology", the candidate submitted for review a total of 70 scientific papers, which are summarized in 4 main thematic areas:

1. Research in Cloud Services.

2. Research in the field of methods and means of increasing quality

of Services (QoS) in modern wireless networks.

3. Research in the field of security of modern computer networks.

4. Research in the field of computer systems and technologies

To meet the relevant minimum national requirements for a group of indicators of category "B" (min. 100 points), the applicant presents fourteen publications (total 330 points) indexed in SCOPUS. These publications are equivalent to a monographic work on "Research on the Application of SDN and Blockchain Technologies for Building Intelligent Cloud Service Solutions".

To meet the minimum requirements for a group of indicators of category "G" (minimum 200 points), the applicant presents a total of 56 publications (640.3 points in total), of which:

• 22 publications (a total of 269.5 points)published in the conference proceedings indexed in SCOPUS, meeting the requirements of indicator G.7 "Scientific publications in publications that are referenced and indexed in world-renowned databases of scientific information" and

• 34 publications (a total of 370.8 points) that meet the requirements of indicator G.8 "Scientific publications in non-refereed journals with scientific review or in edited collective works".

The group of indicators "D" defines several categories of citations/references of scientific works of the author in publications of other authors, according to the indexing of the citing publication. In order to cover the minimum requirements for the group of indicators "D" (minimum 100 points), lists of citations falling into two categories are attached:

- "D.12 -- Citations or reviews in scientific publications, referenced and indexed in world-renowned databases of scientific information or in monographs and collective volumes". The list includes 72 citations of 18 of the candidate's publications.

- „D13 -- Citations in peer-reviewed monographs and collective volumes'. The list includes 36 citations of 13 publications.

To meet the minimum requirements for a group of indicators of category "E" (minimum 150 points), the applicant provides lists of points for the following indicators:

- Participation in national scientific and educational projects – 190 points.
- Participation in international scientific and educational projects – 60 points
- Management of a national scientific or educational project – 140 points
- Published university textbook – 200.1points

In order to meet the minimum requirements for a group of indicators of category "G.29" (minimum 120 points), the applicant provides a reference for conducting lecture courses in 8 different disciplines. The total number of points in category "G" is 1500.

70 publications are submitted for participation in the competition for the academic position of "professor", including 36 presented at international conferences in Bulgaria and 1 - in a journal abroad. 90% of publications have up to three authors. In 15 of the publications, the candidate is the first author, which testifies to a significant and leading contribution to the conducted research.

Evidence of participation in 4 national research and educational projects, 15 internal for TU-Varna research projects and 3 international projects is presented. Prof. Valchanov is the head of 1 scientific research project at TU-Varna.

In addition, Assoc. Prof. Valchanov presents a report on 7 mobilities carried out under the Erasmus program, as well as a report on membership in scientific organizations and in program and organizational committees of prestigious international scientific conferences.

In conclusion, the presented information shows that Associate Professor Hristo Valchanov not only meets, but also significantly exceeds the minimum national requirements, as well as the criteria of TU-Varna for occupying the academic position "professor" in direction 5.3 "Communication and computer technology".

2. Assessment of the candidate's pedagogical preparation and activity.

It is clear from the candidate's autobiographical reference that Associate Professor Hristo Valchanov has rich pedagogical experience and a wide range of competencies in the field of communication and computer technology. A significant part of Assoc. Prof. H. Valchanov's time is engaged in giving lectures on several disciplines at the Bachelor's and Master's College of Education. He participated in the development of curricula for 29 study programs (13 - Bachelor, 11 - Master, 5 - doctorate).

Prof. Valchanov works actively with students. Information is available on joint publication activity with a number of students. Prof. Valchanov has successfully supervised 70 graduate students since his first habilitation.

Prof. Valchanov is a long-time instructor at the Cisco Academy of TU-Varna.

3. Basic scientific and scientific-applied contributions

In the materials of the present procedure, a number of contributions of a scientific, scientific-applied and applied nature are presented, which I essentially accept. I believe that the contributions in the publications under direction 1 and direction 2 can be combined and presented in the following way:

- Innovative models based on smart contract on blockchain are proposed in different application areas.
- Algorithms and approaches are proposed for load balancing in SDN and finding a best path between hosts.
- Algorithms are proposed to improve QoS and resource allocation in networks based on LiFi, ZigBee, 6loWPAN and BLE technologies.

4. Significance of the contributions to science and practice

The contributions made by Assoc. Dr. Hristo Valchanov are due to his in-depth work in the field of computer systems and technologies.

The results of the candidate's research and scientific-applied activities have found a significant response among the international scientific community. An Internet search shows a large number of citations to the candidate's publications by authors from around the world. According to Scopus, the Hirsch index (h) of Prof. Hristo Valchanov is 6.

5. Critical notes and recommendations.

I have no significant objections to the candidate's scientific works, which are prepared and formatted according to the requirements and standards established in the scientific field.

I recommend Prof. Hristo Valchanov to expand his research activity in the future by participating more in national and international scientific projects and publishing in journals with an impact factor.

6. Personal impressions and position of the review

I know Prof. Hristo Valchanov personally. He is a teacher with very good theoretical and practical training, with extensive professional experience and high authority among the academic community. Able to work well with students, PhD students and colleagues.

CONCLUSION

Based on my acquaintance with the presented scientific works, their importance, and the scientific, scientific-applied, and applied contributions contained in them, I find it reasonable to propose Assoc. Prof. Hristo Georgiev Valchanov to occupy the academic position of "Professor" in the professional direction 5.3"Communication and computer technology", study discipline "Administration of local and Internet networks".

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