OPPINION

by Corresponding Member of BAS, DSc Svetozar Dimitrov Margenov,
Professor at IICT – BAS
of materials submitted for participation in a competition
for holding the academic position "Professor" at IICT-BAS
in professional field 4.6 "Informatics and Computer Sciences", scientific specialty
"Informatics"

In accordance with Order № 185/27.07.2021 of the Director of IICT – BAS, I am appointed as a member of the scientific jury under the competition for professor, published in the State Gazette (issue 45/28.05.2021). Documents for participation in the competition were submitted by DSc Stoyan Milkov Mihov, Associate Professor in the Department of Linguistic Modelling and Knowledge Processing at IICT-BAS.

1. Brief biographical data

Assoc. Prof. DSc Stoyan Milkov Mihov has graduated from the National Gymnasium of Mathematics in 1986. In 1993 he has got his MSc from the Faculty of Mathematics and Informatics at Sofia University "St. Kliment Ohridski", holding a Master's Degree in Mathematics, specializing in 1993 in TU-Munich under the TEMPUS program. In 2000 he defends a PhD thesis and in 2006 is elected Associate Professor. In 2020 he defends a dissertation entitled "Finite-State Automata, Transducers and Bimachines: Algorithmic Constructions and Implementations" for the award of the scientific degree "Doctor of Science" (DSc). The entire work experience of Stoyan Mihov is in IICT-BAS.

2. General description of the presented materials

The materials presented by Assoc. Prof. Stoyan Mihov are prepared in accordance with the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA), the Regulations for the Application of DASRBA (RDASRBA), as well as with the specific requirements of the Regulations of BAS and IICT - BAS. They include: application for admission to the competition; curriculum vitae according to the European model; copy of Diploma for the educational and scientific degree "Doctor" (PhD); copy of Diploma for the scientific degree "Doctor of Science" (DSc); official note for internship in the specialty; list of scientific publications for participation in the competition; list of noticed citations; summaries of the scientific publications with which he participates in the competition – in Bulgarian and English; copies of the scientific publications with which he participates in the competition; reference for the fulfillment of the minimum requirements of IICT; reference for the original scientific and scientific-applied contributions; declaration that there is no legally proven plagiarism in scientific works; letter of recommendation by Prof. Klaus Schultz from the University of Munich.

For participation in the competition, Assoc. Prof. Stoyan Mihov has presented 18 publications covering the period 2006 - 2021, of which 4 are in the last 5 years. The list includes 16 papers, 1 preprint and 1 patent. Of the papers, 14 are published and 2 are accepted for publication.

All publications are in English. There are 3 articles in specialized scientific journals with impact factor (IF), 1 of which is in quartile Q1 (Computational Linguistics). Of the publications submitted for the competition, 7 are with two authors, 5 - with three, 4 - with four and 2 with more than 4 authors. Of these 18 works, 11 have at least 1 co-author from abroad.

Of the 18 publications submitted for participation in the competition, 15 are included in item 7 of the reference for fulfillment of the minimum requirements.

The reference for fulfillment of the minimum requirements for the academic position "professor" contains the necessary data on indicators A, B, Г, Д and E. The points of the candidate in each of them significantly exceed the required ones.

3. General description of the presented materials

Assoc. Prof. Mihov is an established scientist in the field of linguistic modeling and computational linguistics. His research interests include the theory of finite-state automata and their applications in approximate search, synthesis and speech recognition. He has a rich pedagogical activity in FMI and FEF of Sofia University "St. Kliment Ohridski". He has serious experience and authority in the management and coordination of research and applied projects. He has supervised 10 defended graduates and 2 defended doctoral students. He has managed a contract with the Bulgarian NSF, the Bulgarian team under an FP7 contract with the European Commission and under a contract with the Volkswagen Foundation, as well as contracts with H-Tech Ltd. and StatSoft Bulgaria Ltd.

4. Scientific and scientific-applied contributions

The presented scientific and scientific-applied contributions of Assoc. Prof. Stoyan Mihov are in accordance with the professional field 4.6 "Informatics and Computer Sciences", scientific specialty "Informatics". I accept the classification from the author's reference as follows:

I. Contributions in finite-state automata theory;
II. Contributions to natural language processing and speech recognition;
III. Contributions in the field of approximate search, correction and normalization of texts.

I will note in particular that the methodology in the presented patent uses the studied methods for natural language processing and graph theory for analysis of media coverage, which were subsequently implemented in several scientific and applied developments.

5. Impact of the applicant's scientific publications

The candidate has provided a list of 223 citations in publications that are referred and indexed in the scientific information databases WoS and Scopus. In accordance with the requirements, the citations are formed in a table with data in the group of indicators Д. With a minimum required 140 points, the presented estimate of the citations is 1278 points. Almost all citations included in the table are in works of foreign authors, including those published in most highly ranked specialized international journals and series. The most impressive is the impact of the first article in the list (Schulz K.U., Mihov S., Fast string correction with Levenshtein automata (2003) International Journal on Document Analysis and Recognition, 5 (1), 67-85) with 93 citations.

6. Evaluation of the applicant's personal contribution

I accept that in the joint works, Assoc. Prof. Stoyan Mihov has an equal role. This is supported in particular by the letter of recommendation of Prof. Klaus Schultz.

7. Critical remarks

I have no critical remarks on the materials presented in the competition.

8. Personal impressions

I have known Stoyan Mihov since 1994 and I highly appreciate his scientific and applied achievements, academic ethics and responsibility in daily work, as well as his proven team work opportunities. Strongly impressive is the combination of focused basic research, abstract constructions and theoretical results with the development of important software applications, including the use of state-of-the-art scientific infrastructure.

9. Conclusion

After getting acquainted with the materials for the competition, the complex evaluation of the applicant's qualities, including the scientific and scientific-applied contributions, **I strongly recommend Assoc. Prof. DSc Stoyan Milkov Mihov to be elected to the academic position of "Professor"** at IICT – BAS in professional field 4.6 "Informatics and Computer Sciences", scientific specialty "Informatics".

08.09.2021
Sofia

Member of the Scientific Jury:
/Prof. DSc Svetozar Margenov/