OPINION

by **Veneta Veselinova Tabakova-Komsalova**

associate professor at Plovdiv University "Paisii Hilendarski"

on the thesis for awarding an educational and scientific degree (PhD),

under the scientific field: **4. Natural Sciences, Mathematics, and Informatics**,

the Professional area: **4.6. Informatics and Computer Sciences,**

the scientific specialty: **Informatics**

Author of the PhD thesis: **Tsvetomira Ivanova Kazashka**

Thesis title: **Creating an ontology of Bulgarian dance folklore**

Scientific supervisor:

Prof. Dr. Stanimir Nedyalkov Stoyanov, Plovdiv University "Paisii Hilendarski," Plovdiv.

Prof. Dr. Daniela Kirilova Dzheneva, Academy of Music, Dance, and Fine Arts

"Prof. Asen Diamandiev"—Plovdiv.

General presentation of the procedure and the doctoral student

By order No. PD-22-487 of 21.02.2025 of the Rector of Plovdiv University "Paisii Hilendarski" (PU), I have been appointed as a member of the scientific jury for ensuring a procedure for the defense of a dissertation on the topic "Creating an ontology of Bulgarian dance folklore" for the acquisition of the educational and scientific degree "doctor" in the field of higher education. 4. Natural sciences, mathematics, and informatics; professional direction 4.6. Informatics and computer science, doctoral program Informatics, The author of the dissertation is Tsvetomira Ivanova Kazashka—a doctoral student in a full-time form of study at the Department of "Computer Systems" of the Faculty of Mathematics and Informatics with scientific supervisors: Prof. Dr. Stanimir Nedyalkov Stoyanov, Plovdiv University "Paisii Hilendarski," Plovdiv, and Prof. Dr. Daniela Kirilova Dzheneva, Academy of Music, Dance and Fine Arts "Prof. Asen Diamandiev"—Plovdiv" .

The set of materials on paper submitted by Tsvetomira Ivanova Kazashka is in accordance with Art. 36 (1) of the Regulations for the Development of the Academic Staff of the Plovdiv University.

General description of the materials submitted.

As a member of the scientific jury, I have received a set of materials on electronic media in accordance with Art. 36 (1) of the Regulations for the Development of the Academic Staff of the Plovdiv University. The submitted documents contain data from which it can be concluded that the doctoral student, Tsvetomira Ivanova Kazashka, has in-depth knowledge and extensive experience in the field of computer science. She has completed a bachelor's degree in "Information Physics and Communications" in 2013. and a master's degree in the specialty "Investment Management in Telecommunications" in 2014 at Plovdiv University "Paisii Hilendarski," Plovdiv. Throughout her career from 2013 to the present, she has been working at the Academy of Music, Dance, and Fine Arts "Prof. Asen Diamandiev"—Plovdiv".

1. Relevance of the topic

The dissertation is dedicated to an extremely interesting area—digitization of cultural and historical heritage (CTH) with a main emphasis on Bulgarian dance folklore. The topic is in tune with the modern information society, characterized by information exchange and cultural communication in real time. The construction of a single ontological model and its subsequent integration into a network of ontologies for CTH is with a high level of applicability of the work.

2. Knowledge of the problem

Tsvetomira Ivanova Kazashka demonstrates competence and very good knowledge of the problems related to the field of study. The doctoral student has a strong interest in the problem area, considering her place of work at the Academy of Music, Dance, and Fine Arts "Prof. Asen Diamandiev"—Plovdiv". The doctoral student's professional experience is a basis for competent implementation of the goal set in the dissertation, formulation and evaluation of the problems, presentation and justification of the research, analyses, and results obtained.

3. Research methodology

I find the methodology used by the doctoral student to achieve the formulated goal and the corresponding tasks to be expedient, convincingly motivated, and suitable for the successful implementation of the research, which is evident from the results obtained.

4. Characteristics and evaluation of the dissertation work

The PhD thesis Tsvetomira Ivanova Kazashka consists of 154 pages. Consisting of an introduction, four chapters, a conclusion, a bibliography, and appendices with lists of tables, figures, publications of the author, participation in projects, and publications of the author. The bibliography contains 114 literary sources, of which 86 sources are in Latin and 28 in Bulgarian. The purpose of the development is "to continue the work on building a platform for the digitization of our cultural and historical heritage as an adaptation of ViPS. A main component of this expansion of the platform is to be an ontology of folk dances" is set out in the introduction of the scientific work and five main tasks for its achievement are defined. An in-depth and competent analysis of the current state of the research topic has been made. I find the presented ontology in the field of KIN and specifics in the semantic modelling of KIN (folk dances) very useful. An approach to semantic modelling was chosen; in accordance with the specifics, a

formal semantic model was developed, allowing the presentation of the characteristics of folk dances in the work of Kiril Dzhenev. The ontology was developed using the Protégé environment. Following the goal set in the ontology, possibilities for its application are presented. The advantages of the work are expressed in the comprehensive and scientifically based structuring of Bulgarian folk dances, which was realized through the integration of the concept of virtual physical space (ViPS) and the creation of an ontology prototype. As a result of the work on the dissertation, the results obtained are part of a successfully implemented project funded by the Scientific Research Fund of the Ministry of Education and Science, Competition for Funding of Fundamental Scientific Research of Young Scientists and Postdoctoral Students—2022 on the topic "Modelling knowledge in the field of Bulgarian folklore.". The dissertation is well-structured and carefully developed. The critical analysis of the problem area shows the good awareness of the doctoral student. I believe that the research was done correctly, and the defined tasks were followed. The presentation is comprehensive, very well argued and appropriately presented.

5. Assessment of the publications and personal contribution of the doctoral student

According to the documents presented by Tsvetomira Ivanova Kazashka, the results of her dissertation have been reported at two international scientific conferences (in Bulgaria). For the current procedure, the doctoral student presents two publications in a collection of these conferences, indexed in Scopus and in Web of Science. The two publications are not independent; in one, the doctoral student is the first author. The personal contribution of the doctoral student is visible. All publications are entirely on the topic of the dissertation. The publications present the results of the research done sufficiently fully. I highly appreciate the work of the doctoral student, especially considering that this is the first study of this type.

6. Contributions and significance of the work

I believe that the contributions in the dissertation work of Tsvetomira Ivanova Kazashka are scientific-applied, and I summarize them as follows: 1) A prototype model of an ontology for the problem area has been designed according to defined criteria; 2) 3) An ontology has been implemented and successfully tested; a single ontological model with standardized data based on semantic representation has been built. The significance of the work is supported by the possibilities and ideas for future applications presented by the doctoral student. The obtained scientific-applied and applied results are original. They fully correspond to the goal set in the dissertation work.

7. Abstract

The abstract is 32 pages long, well-structured, and correctly and completely reflects the content of the dissertation, the results obtained, and the conclusions drawn from the study.

8. Critical remarks and recommendations

I have no critical remarks towards the doctoral student. I recommend that she continue the research she has begun and apply it to the digitization of the cultural and historical heritage (CCH) at the Academy of Music, Dance, and Fine Arts "Prof. Asen Diamandiev" - Plovdiv.

With regard to the doctoral student's publication activity, it could be noted that all publications on the dissertation are co-authored, which shows established opportunities for teamwork. My recommendation is to continue the research activity in accordance with the outlined guidelines for future work, as well as the preparation and publication of independent publications in prestigious international publications.

I have the following question for the doctoral student: Can this ontology be expanded and adapted for other dances from Bulgarian dance folklore?

I have no information about the presence of plagiarism or unreliability of the scientific data presented in the dissertation.

CONCLUSION

My assessment of the dissertation, the abstract, the publications, and the scientific activity of Tsvetomira Ivanova Kazashka is entirely positive. The dissertation contains scientific-applied and applied results, which represent an original contribution to science and show that the doctoral student has a thorough theoretical background, opportunities for critical analysis, and independent conduct of scientific research. The dissertation fully meets the requirements of the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Regulations for its implementation, as well as the criteria of the Regulations for the Development of the Academic Staff at Plovdiv University "Paisii Hilendarski," and specific requirements of the Ministry of Finance have been met. This gives me reason to confidently recommend to the Honorable Jury to award the educational and scientific degree "Doctor of Philosophy" (PhD) to **Tsvetomira Ivanova Kazashka** the educational and scientific degree "Doctor" in the Scientific Field **4. Natural Sciences, Mathematics and Informatics**, the Professional Area **4.6. Informatics and Computer Sciences**, the Scientific Specialty **Informatics**.

12.03.2025   Reviewer: ....

Plovdiv   Assoc. Prof. Dr. Veneta Tabakova-Komsalova, PhD