

## **POSITION**

**by Prof. Radoslav Dimov Pavlov, PhD**

**Institute of Mathematics and Informatics, Bulgarian Academy of Sciences**

on the Dissertation for awarding educational and scientific degree “**Doctor**” (PhD),

in the Area of Higher Education 4. Natural Sciences, Mathematics and Informatics,

Professional Field 4.6. Informatics and Computer Sciences

PhD Program „Information Technologies“ – Computer Networks

**Author:** Silvester Mustafa Hasani

**Topic:** RESEARCH INFORMATION SYSTEM SERVICES FOR THE OPEN SCIENCE CLOUD

**Scientific supervisor:** Prof. Eliza Stefanova, PhD, Faculty of Mathematics and Informatics, Sofia University “St. Kliment Ohridski”

### **1. General presentation of the procedure and the PhD student**

In accordance with Order № RD-38-173 from 31.03.2022 of the Rector of the Sofia University “St. Kliment Ohridski” (SU) I have been appointed as a member of the Scientific Jury to provide the procedure for the defense of a dissertation titled “Research Information System Services for the Open Science Cloud” of Silvester Mustafa Hasani for awarding the educational and scientific degree “doctor” in the Area of Higher Education 4. Natural Sciences, Mathematics and Informatics, the Professional Field 4.6. Informatics and Computer Sciences of the PhD Program “Information Technologies” – Computer Networks. The author is Silvester Mustafa Hasani – a part-time PhD student at the Faculty of Mathematics and Informatics, with scientific supervisor Prof. Eliza Stefanova, PhD, Faculty of Mathematics and Informatics, Sofia University “St. Kliment Ohridski”.

The presented Position is made in accordance with the Act for the Development of the Academic Staff in the Republic of Bulgaria, the Rules for its implementation and the Rules for the Development of the Academic Staff of Sofia University “St. Kliment Ohridski” and Faculty of Mathematics and Informatics, Sofia University “St. Kliment Ohridski” (FMI-SU).

Silvester Mustafa Hasani has submitted the required set of materials.

Silvester Mustafa Hasani was born on 27.01.1992. In 2016, he received his Master's degrees in Computer Science from the University of New York Tirana and the University of Greenwich, London. Enrolled in part-time doctoral studies on 15.07.2019 in the doctoral program “Information Technology” at FMI-SU. Since 2017 he has been working as a lecturer in computer science at State

University of New York, University “Aleksander Moisiu” Durres, University of New York Tirana, Universiteti “Aleksander Xhuvani” и Universiteti Barleti.

## **2. Relevance of the topic**

The PhD thesis presents research results on Open Science and Open Access to research, in particular on a European Open Science Cloud, on the transition to Open Science in the Balkan countries, and the development of an Open Digital Repository for Scientific results in Albania as a part of an Albanian Open Science Cloud. The topic is extremely recent and of considerable scientific and practical interest in the European Union.

## **3. Knowledge of the problem**

The realization of the dissertation goal requires in-depth theoretical knowledge and practical skills. It is evident from the dissertation and the materials presented that the PhD student has a solid theoretical background and extensive insight into modern technologies for Open Science and Open Access, necessary to achieve the research objectives. He demonstrates good knowledge of the research object. He formulates clearly and performs the tasks leading to specific results. The research is presented competently and with well-founded analyses and inferences.

## **4. Research methodology**

I consider the methodology used by the PhD student to achieve the formulated objectives and corresponding tasks to be appropriate, well-motivated and suitable for the successful implementation of the research, which is evident from the results obtained.

## **5. Characteristics and evaluation of the dissertation and contributions**

The dissertation of Silvester Mustafa Hasani contains 120 pages, presented by a table of contents, an abstract, five chapters (incl. the introduction and the conclusion), contributions of the dissertation (in Chapter 5. The conclusions and future work), a list of figures, a list of tables, a bibliography of 55 literature sources, a list of author's publications on the topic of the dissertation (in Chapter 5. The conclusions and future works), one appendix and a declaration of originality.

The aims, objectives and structure of the thesis are presented in **Chapter 1** Introduction. General definitions are given for the most important topics related to Open Science and an in-depth overview of each element is discussed.

**Chapter 2** provides a detailed overview and analysis of the development of Open Science research in Europe. The main characteristics of the European Open Science Cloud are discussed. Different research data repositories are presented and described and a comparative analysis of their characteristics is done.

**Chapter 3** identifies the stages for the implementation of Open Science in Albania and Bulgaria. A questionnaire is presented, which was used to investigate and assess the status of the transition to Open Science in the Balkan institutions. The architecture of the prototype of an open access digital repository in Albania is described, as a first step towards the Albanian Open Science Cloud.

**Chapter 4** presents the prototype of an Open Access Digital Repository in Albania and its main components. The necessary software to build the digital repository based on DSpace-CRIS is also presented. The data model and design of the digital library compatible with the European Open Science Cloud is described in detail. A practical approach for implementing an open science policy is developed.

In **Chapter 5**, the main scientific, scientific-applied and applied approaches are presented and future directions for development are discussed.

The dissertation is thoroughly developed. The problem area is competently and critically analyzed. The presentation of the developed prototype and applications is comprehensive, well-argued and appropriately illustrated.

## **6. Assessment of publications and personal contribution of the PhD student**

The author's list of publications on the subject of the PhD thesis includes 4 titles, 2 of which are indexed in Scopus. All publications are in proceedings of international conferences and are in English. In all publications S. Hasani is the first author. All publications are co-authored.

Having read the dissertation and the materials presented, I believe that the contributions formulated and the results obtained are the personal work of the PhD student. No plagiarism has been found.

I have no critical remarks.

## **7. Executive summary**

The executive summary contains 59 pages (in English version) and 56 pages (in Bulgarian version) and reflects correctly the structure of the PhD thesis, the results obtained and the conclusions drawn from the study. The requirements of the Law on the Acquisition of Scientific Degrees and Academic Positions at SU and FMI-SU have been met.

## **8. Recommendations for future use of the dissertation contributions and results**

The topic and the results provide certain opportunities for the development and extension of open science applications in Albania and its integration into the European Open Science Cloud. I recommend Silvester Mustafa Hasani to continue his research and expand its promotion in relevant academic institutions.

## CONCLUSIONS

The PhD thesis *contains scientific, and applied results, which represent an original contribution to Computer Science and Information Technologies*. The PhD thesis *meet all the requirements* of the Law for the Development of Academic Staff in the Republic of Bulgaria, the Rules for its implementation and the Rules for the Development of the Academic Staff of Sofia University “St. Kliment Ohridski” and Faculty of Mathematics and Informatics, Sofia University “St. Kliment Ohridski”.

The dissertation shows that the PhD student Silvester Mustafa Hasani **possesses** in-depth theoretical knowledge and professional skills in the scientific specialty “Information Technologies”, **demonstrating** qualities and skills for independent scientific research.

Due to the above, I confidently give my *positive evaluation* for the conducted research, presented in the dissertation, executive summary, achieved results and contributions, and **I propose the honorable scientific jury to award educational and scientific degree “doctor”** to Silvester Mustafa Hasani in the Area of Higher Education 4. Natural Sciences, Mathematics and Informatics, Professional Field 4.6. Informatics and Computer Sciences, PhD Program “Information Technologies”.

23.06.2022

**Scientific jury member:**

Prof. Radoslav Pavlov, PhD