

**Radiology**

October 1, 2021

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Kentucky Clinic South  
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UK Good Samaritan Hospital  
UK HealthCare at Turfland

Dissertation Council  
Asfendiyarov Kazakh  
National Medical University  
Almaty, Kazakhstan

RE: Akmaral Ainakulova, PhD Candidate

Dear Dissertation Council:

Dr. Akmaral Ainakulova contacted me in 2018 and gave me some preliminary information about her future dissertation research on contemporary radiology technologies in breast cancer early detection. Her study effort aligned with my interests in the field of breast imaging. In fact, I've written more than 20 peer-reviewed studies on the subject. I'm glad to learn that Dr. Ainakulova's PhD work is nearing completion, with the public defense of her dissertation on the horizon. I am delighted to submit this letter to Asfendiyarov Kazakh National Medical University's Dissertation Council as a synopsis of Dr. Ainakulova's PhD study.

Dr. Ainakulova's research study on contrast enhanced spectral mammography in the diagnosis of breast cancer was reviewed by me. The findings of this study were recently published in the international journal Contemporary Oncology/Współczesna Onkologia (Ainakulova A., et al. Contrast-enhanced spectral mammography without and with a delayed image for diagnosing malignancy among mass lesions in dense breast (2021)). This is an excellent work in my opinion, with very encouraging results.

In addition, Dr. Ainakulova has evaluated the role of imaging methods in breast cancer screening, with the results also published in 2021 (Ainakulova A., et al. The role of modern imaging techniques in additional visualization of breast cancer screening: a literary review. Siberian Oncology Journal).

The main provisions and results of Dr. Ainakulova's dissertation research were reported at the European Congress of Radiology (Austria, 2020) and Korean Congress of Radiology (South Korea, 2019, 2020).

Dr. Akmaral Ainakulova has proven herself to be a knowledgeable and motivated researcher throughout her planning process, methods, and results. During the implementation of scientific research as part of her dissertation work, Dr. Ainakulova displayed strong analytical and organizational skills. Dr. Ainakulova appears to have definitely accomplished the purpose of her dissertation thesis, which is to improve breast cancer diagnostics. I am fully supporting Dr. Ainakulova's well deserved title of Doctor of Philosophy (PhD). Please do not hesitate to contact me if you have any questions.

Sincerely,

*Margaret Szabunio, MD*

Margaret Szabunio, MD (Oct 1, 2021 17:10 EDT)

**Margaret M. Szabunio, MD, FACR, FAWR**

Professor, Department of Radiology, Surgery & Biomedical Engineering  
Division Chief, Women's Radiology  
Director, Women's Radiology Fellowship  
University of Kentucky College of Medicine






# Ainakulova LOR\_Szabunio

Final Audit Report

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