

**Letter of support  
for postdoc student  
at Institute of Mathematics and Mathematical Modeling  
Karlygash Dosmagulova**

It is my pleasure to recommend Dosmagulova Karlygash. She has showed herself as an intelligent and hard-working student, who takes a passionate interest in the chosen area. I work with her from undergraduate education. She worked on her PhD dissertation work under my supervision.

In PhD dissertation work the spectral analysis of Laplace-Beltrami operator is considered. The true application of multivariate differential operator studies has been studied in medicine. Currently, there is a great need for important research in the field of biotechnology, i.e the development of gene interactions using polymers. This study aims to determine the type of mathematical model of polymers. Therefore, the ability to use Riemannian surfaces allows you to build a model. The most important concept is symmetrical spaces. It is enough that the tensor of its curve is invariant for the connected Riemannian manifolds to be symmetrical. For a general Riemannian manifolds to be symmetric, each point must exist in the form of isometry. Although Riemannian spaces were used in physics, mathematics, and chemistry, their most important role was identified in the theory of homology.

The purpose of the research topic is spectral analysis of the differential operator determined by the flow in the Riemannian manifolds. She chose the objectives of the research as determination of differential operators in the Riemannian manifolds and spectral analysis of operators identified in the manifold. Karlygash uses application of analytical methods in spectral theory for solving problems. The study of currents and circuits in the Riemannian manifolds by differential operators is based on the theory of spectral analysis. Practical significance is used in mechanics and physics. It is very important for her to attend the lecturers of the well-known specialists in logics. Karlygash seems to be highly enthusiastic about everything that relates in math and particularly mathematical analysis and mathematical logic. She is maintaining continual self-learning and growth through extensive reading and attending all conferences and discussions available in the city and abroad. This has helped her to gain deep understanding and broad erudition in the subject.

At a personal level, Karlygash is a well-disciplined, responsible student with a pleasant personality. Karlygash is a broad-minded, internationally oriented student, who has some abroad experience and is well prepared to new challenges.

For all these reasons, I would highly recommend Dosmagulova Karlygash to participate at the Hong Kong Laureate Forum 2025. She is an exceptional candidate who would contribute greatly. Furthermore, I believe that it will provide her with valuable experience and will help her deepen understanding of the subject. She is sincerely interested in gaining experience with the world's scientists, exchange ideas and new methods and researches in the field of mathematics.

Scientific supervisor,  
D.Sci. Math.-Phys., professor

*Baimbet*



B.E. Kanguzhin