

It is my pleasure to write a letter of recommendation on behalf of Irina Ivanova. I have known her since 1998, when she started to work as a research assistant under my guidance. For more than a year I have close experience of Irina's work and can state unequivocally that her academic and professional skills place her in the top 5% of the students I have worked with during my 50 years of work at Lebedev Physics Institute of Russian Academy of Sciences.

Some of the main credits of Irina are her persistence and diligence sometimes even ranging with obsession with work. I will give you an example. When I first met Irina in September 1998 she was a 4th year student at MIPT and possessed a solid background in physics and mathematics, though she lacked some knowledge in biology and chemistry necessary for successful research in the field of biophysical kinetics which our laboratory is primary concerned with. It took her only a few months to read a rather large number of books and articles in Russian as well as in English and become proficient in this field. From that time she started to attend extra-curriculum lectures and seminars on different topics in biophysics (such as Biophysics of Membrane Processes, Biochemical Physics, Physical aspects of Biological Processes) at MIPT as well as at Moscow State University.

I must admit that now Irina possesses a unique combination of solid academic knowledge in physics, chemistry, biology and mathematical methods. In scientific discussions and during colloquia Irina revealed maturity, excellent analytical thinking and clarity of thought. She often proposed original ideas and made outstanding conclusions.

As a member of our laboratory Irina investigated permeability of erythrocyte membrane for glucose and oxygen in normal conditions and under pressure. This was an important part of our major research concerning influence of pressure on permeability of cytoplasmic membranes. Irina took part in construction of theoretical model and then carried out a lot of independent research. I should mention her accuracy and thoroughness in carrying out experiments and an ability to pay attention to nuances, which often play crucial role. Her findings were very important for confirmation of our theory of structure of cytoplasmic membrane. As a result of this work in June 1999 Irina successfully defended her thesis and got BS with Honors. Recently she has reported these results at Biophysics section of MIPT Scientific Conference. This report was made at the top level.

In summary, Irina distinguished herself as an individual who exhibits an organized, scientific approach to research, and with a high degree of motivation, innovation and initiative, can accomplish her goals. Therefore, I evaluate Irina Ivanova as a person with high potential to carry out an advanced study in the field of biophysics and strongly recommend her for further education at Biophysics Department of California Institute of Technology.