



**Northeastern**  
U N I V E R S I T Y

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**Department of Physics**

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Biocomplexity Faculty Search Committee,  
C/o Prof. Rob de Ruyter van Steveninck,  
Biocomplexity Institute,  
Indiana University,  
Swain Hall West 117,  
Bloomington, IN 47405-7105  
U.S.A.

Dear Committee,

This letter is written in support of Dr. Svitlana Berezhna's application for a position in your Department. I have known Svitlana for about two years. She worked in my laboratory as a Postdoctoral Research Associate from January 1, 2001 to May 20, 2002. During her time in the lab she demonstrated independence of scientific thought and was able to put together a solid research project involving intact mitochondria. I originally planned for this project to be a preliminary study of cytochrome c resonance Raman spectra in the intact mitochondria, which would help us to assess the potential of performing more demanding microscopy imaging experiments using the technique of coherent anti-Stokes Raman scattering. To her credit, Svitlana turned this preliminary investigation into a relatively complete study of cytochrome c binding to mitochondrial membranes. This research area has important implications in the phenomenon of apoptosis (regulated cell death) and her work revealed that conformational changes take place in cytochrome c when it binds to the mitochondrial membrane. These changes may be useful in monitoring the binding and release of cytochrome c from mitochondrial membranes in dynamic imaging studies. We have published a paper in Biochemistry describing this work and Svitlana took the initiative to write the original draft and to keep the fires burning under me so that we got it completed.

Overall, I believe that Svitlana has a very positive and ambitious scientific attitude and that she appears to have the potential to set up a research program that would be competitive in the bioimaging field. Svitlana's group talks were well organized and presented, so I also believe that she would be a good teacher. If I can be of further assistance, please do not hesitate to contact me.

Sincerely yours,

Paul Champion  
Professor of Physics

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