

# UNIVERSITY of PENNSYLVANIA

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## School of Arts and Sciences

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J. Kent Blasie  
*Walter H. and Leonore C. Annenberg Professor  
of the Natural Sciences*

November 25, 2003

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

Dear Professor de Ruyter van Steveninck:

I am writing in support of Dr. Songyan Zheng's application for a junior faculty position in your Department. Dr. Zheng has been a post-doctoral associate in my research group since receiving her Ph.D. degree in Chemical Engineering in Japan. I recruited her specifically to work on my project within a NIH Program Project Grant led by Professor Stanley Opella in our Chemistry Department, which was centered on his interest in the relatively small membrane protein Vpu, an important accessory protein involved in HIV infection.

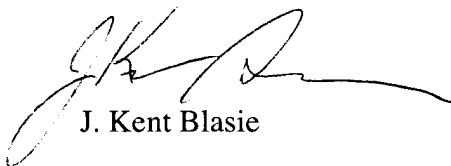
Dr. Zheng came to my research group with no particular background in research in biochemistry, biophysics or structural biology, but she did have a strong background in synchrotron radiation-based x-ray spectroscopy. Synchrotron radiation-based x-ray scattering & spectroscopic methods have been central to my research program for some time. She very quickly became accomplished at working with both membrane lipids and membrane proteins interacting well with key members of Opella's research group. Dr. Zheng then effectively employed both x-ray reflectivity and grazing-incidence x-ray diffraction methods to investigate the structure of the Vpu protein, and two of its sub-molecular constructs, incorporated unidirectionally within Langmuir monolayers of phospholipids. Her work over the time-course of the Program Project grants resulted in several substantial publications appearing in the *Biophysical Journal* and *Physical Review B*. The two more recent of these publications have set a high standard for such structural studies of ultrathin bio-organic films at the liquid-vapor interface. Furthermore and more importantly, they nicely complemented Prof. Opella's studies of this protein, and its sub-molecular constructs, within other membrane-like environments, namely detergent micelles and oriented lipid multilayers, using solid-state NMR methods. However, now that Professor Opella has moved his research effort to UC San Diego, this work will no longer be continued in my laboratory.

Over the course of her work in my research group, I have found Dr. Zheng to highly motivated in the pursuit of excellence in science, and to be creative in her approach as an exceptional experimentalist, ranging from specimen selection & preparation to data collection and analysis. She works very effectively in collaboration with others, is thoroughly responsible and well liked. While like many whose native language is not "English", her communication

skills could stand some improvement, although she does nevertheless communicate effectively both in speaking and writing.

In summary, I believe that Dr. Zheng is a strong candidate worthy of your serious consideration. She has formulated a good research plan that could be undertaken with a minimum of institutional investment as it can be carried almost entirely at the National Laboratories. In addition, while I have no knowledge of her teaching abilities, I do believe that she is sincerely motivated to be a sound educator.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'J. Kent Blasie', with a long horizontal flourish extending to the right.

J. Kent Blasie