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

RE: Letter of Reference for Osamu Miyashita

Dear Professor de Ruyter van Steveninck,

I am writing in support of Osamu Miyashita's application for a faculty position in your department. I have known Miyashita for several years during which time he, Jose Onuchic and I have collaborated on a new computational approach to large scale conformational changes in proteins. During this time I have been very impressed with Miyashita's energy, professionalism and independence. I can, therefore, recommend him strongly.

Miyashita's background was in the theory of electron transfer reactions and the role of molecular dynamics of proteins in that process. The problem we worked on required a very bold extension of the standard ideas of large scale conformational changes as occuring by low frequency normal modes. The new approach tries to extend this traditional linear picture to one that accounts first for the kinematic nonlinearities involved in large scale movements that occur even in elastic theory and the more violent nonlinearities accompanying conformational changes that involve the "cracking" of the protein by local unfolding transitions.

At every stage of this project Miyashita was deeply involved in the critical formulation of the approximations. He also interfaced incredibly well with the complex experimental literature on conformational change in our chosen model system – the kinases. I was most impressed by how rapidly this background material was digested by him.

You can be quite confident that Miyashita will carry out work that will meet the highest standards of scholarship. I am happy to recommend him to you.

Sincerely yours,

Peter G. Wolynes
PGW/hne