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

Re: Dr. Kannan Gunasekaran

Dear Professor de Ruyter van Steveninck:

I am writing this letter in strong support of Dr. Kannan Gunasekaran, who is applying for a faculty position. Dr. Gunasekaran is an excellent scientist with expertise in the area of computational approaches to protein structure and bioinformatics. I was very pleased by his work during a postdoctoral stint in my laboratory, and I have been much impressed by the high quality of his work in Ruth Nussinov's laboratory.

I first became familiar with Dr. Gunasekaran's work when he was a graduate student with Professors Ramakrishnan and Balaram of the Indian Institute of Science in Bangalore, the premier research training institution in protein and peptide structure in India. Dr. Gunasekaran had an outstanding publication record as a graduate student, including seminal papers on β hairpins, on helix stop signals in proteins, and on stereochemical rules for allowed protein structures. These papers and others from Dr. Gunasekaran's graduate work all appeared in highly respected, peer-reviewed international journals.

I was very happy when Dr. Gunasekaran applied to me for a post-doctoral research position in 1998. He worked in my research group for three years and made several important research contributions. Of particular note was the detailed analysis of the conserved interactions in the intracellular lipid-binding protein family, one member of which we use as a subject for experimental protein folding studies. An important manuscript on this study appeared in *Proteins: Structure Function and Genetics*. The perspective that Dr. Gunasekaran brought to this project has been invaluable to our research. He was able to deploy many computational approaches, including comparative sequence analysis (with complete statistical rigor), molecular dynamics, Monte Carlo methods, and several computer programs of his own development to analyze structural motifs and conserved structural features in this important family. More significantly, the results of his work are of high significance to the field of protein structure and folding more generally, and will have considerable impact. As an indication of this, Dr. Gunasekaran was first author with Arnold Hagler, Steve Eyles, and me of an invited review of

the folding mechanisms of proteins in related families published in the high impact journal *Current Opinion in Structural Biology* in 2001.

Dr. Gunasekaran made a very good move when he joined the Nussinov laboratory to continue to build on his expertise in bioinformatics and computational biology. He has been very productively in new areas, including studies on the mechanism of formation of amyloid, which is essential to the critical need to find therapeutic strategies to address Alzheimer's disease, bovine spongiform encephalomyopathies, and other amyloid-based diseases, and studies on protein dynamics and how they relate to function and to the nature of natively disordered proteins.

Dr. Gunasekaran is extremely well-trained, hard-working, and intelligent. He is able to design long-term projects, and he works well either independently or as part of a team. His computational virtuosity is a benefit to any research program he is involved in. He has a distinguished record of scientific research, and the trajectory of his productivity bodes very well for continuation of his accomplishments. I urge you to interview him for your faculty position.

Sincerely,

A handwritten signature in black ink that reads "Lila Gierasch". The signature is written in a cursive, flowing style with a large initial "L" and a long, sweeping underline.

Lila M. Gierasch