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DEPARTMENT OF BIOLOGY

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November 2nd, 2004

Biocomplexity Faculty Search Committee
c/o Professor Rob de Ruyter van Steveninck
Department of Physics
Indiana University

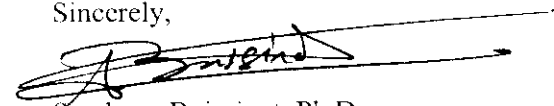
I am writing this letter in support of Dr. Mingzhou Song's application for a faculty position in your department. I have known Dr. Song for 2 years and we have been collaborating very closely on a number of research projects. I will first review the biological questions we have been addressing with Dr. Song and then I will describe in more details the help Dr. Song has brought to this project.

My laboratory is interested in the evolution of LINE-1 retrotransposons and the impact they have had on mammalian genomes. L1 (LINE-1) elements are the most successful group of transposable elements in mammals. The recent completion of the human genome revealed that our genome contains 800,000 L1 elements that account for 17% of our DNA. In order to understand the parameters responsible for the replicative success of L1, my laboratory is analyzing the genomic distribution of L1 elements in complete genome sequences. The goal is to determine the genomic parameters (e.g., base composition, transcriptional activity or recombination rate) that could have influenced the distribution of L1 elements.

In the course of our research, the main problem we are facing is the abundance of data resulting from the sequencing of entire genomes. As biologists we are not trained or prepared to analyze such data sets. For this reason, my laboratory has greatly benefited from Dr. Song's expertise in bioinformatics and especially in pattern discovery. Dr. Song has helped us design and implement the bioinformatics tools necessary for the extraction and analysis of L1 elements and of the genomic features associated to them. In this process he has contributed to a great extent to the training of my undergraduate and graduate students. At this point we are in the process of writing several articles describing the work jointly done by Dr. Song and my laboratory.

With the recent completion of complete genome sequences, it is becoming increasingly necessary for biologist like me to collaborate closely with computer scientists. From this point of view, Dr Song was a perfect collaborator as he has both a strong interest in biology and a very solid expertise in pattern discovery and biostatistics. Therefore, I believe Dr. Song would be a strong asset to any academic institution he would join. If you have any question, please don't hesitate to contact me by email at Stephane_boissinot@qc.edu or by phone at 718 997 3437.

Sincerely,



Stephane Boissinot, Ph.D.
Assistant Professor