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Recommendation for Dr. Zhenglong Gu

I take great pleasure in writing this recommendation letter for Zhenglong Gu, who has applied for an assistant professorship at your department. I was his Ph.D. advisor and have known him for more than five years. He left my lab at the end of 2003 to pursue postdoctoral research with Ron Davis at Stanford.

Zhenglong is highly original, innovative, and self-motivated. In the last two or three years of his Ph.D. study he published eight papers, most of which appeared in highly prestigious journals. Although the ideas for the first few papers were mine, for the Nature and Trend in Genetics (TIG) papers it was he who initiated the studies. He eagerly reads every new issue of Nature, Science, and other top journals, trying to find new ideas for research. He often comes up with exciting ideas, and he has gained sufficient experience to judge whether a topic is of biological significance. He has all the skills to carry out the analysis. His research skills and intellectual capacity have grown tremendously in the last four years and he should be able to run his own show. It was a great pleasure to see his intellectual growth and to share his enthusiasm and excitement in pursuing research.

Since he published so many papers during his stay in my lab, it is too much to describe even half of them. So, I mention only two. First, to my knowledge his TIG paper was the first study to use microarray data to study expression divergence between duplicate genes. He answered two questions that could not be addressed before the advent of large-scale data: namely, how fast and how often duplicate genes diverge in gene expression? Using microarray data he showed many duplicate genes in yeast have diverged rapidly in expression and most yeast genes will eventually diverge in expression. In his Nature paper he challenged the prevailing view that compensation for null mutation in a genome is primarily due to alternative pathways and the contribution due to duplicate genes is negligible. He used the nearly complete set of gene deletions in yeast to show that the contribution due to duplicate genes is at least 25% and can be up to 60%. He also provided other analyses to support the importance of duplicate genes. This study was highlighted as an elegant analysis in News and Views of Nature. During his stay of six months as a postdoc (to wait for his wife's graduation), Zhenglong published a two-page note in Nature Genetics to show that duplicate genes increase gene expression diversity in development in *Drosophila*. The study again showed his ability to find new research topics.

Zhenglong works very hard and is highly efficient. He was the first student among his peers to defend the Ph.D. thesis and, to my knowledge, had the best publication record among the graduate students in our department for the last five years. He is one of the best students I have ever known. Although I have met a large number of graduate students, I have rarely come across such an exceptional one. He was able to create a new line of research in my lab and to stimulate others to follow. His contributions to my lab were truly great.

With his originality and strong drive Zhenglong will no doubt become a foremost leader in evolutionary genomics. He communicates well with other scientists and is very eager to learn and try new ideas. So, an appointment in your department will be mutually beneficial to both him and your colleagues.

Sincerely,

Wen-Hsiung Li, Ph.D.
James Watson Professor