October 28, 2005

Dr. Yves Brun Systems Biology/Microbiology Faculty Search Department of Biology, Indiana University Jordan Hall 142, 1001 E 3rd St Bloomington IN 47405-7005

Dear Dr. Brun:

It is my great pleasure to write this recommendation letter for Dr. Weiwen Zhang who is applying for the SYSTEMS BIOLOGY/MICROBIOLOGY faculty position in Indiana University. Weiwen is a level IV research scientist in Microbiology Group, Pacific Northwest National Laboratory (PNNL) and principal investigator of several research projects including "Transcriptional Profiling of Microbial Syntrophic Systems" and "Secretion systems and their roles in bacterial virulence process in *Salmonella*", which all involve using systems biology approach to study the complex biology systems.

Although I have known Weiwen personally for only three years after he joined PNNL, I have been familiar with his researches and impressed by his accomplishments, especially his pioneer work on purification and characterization of two eukaryotic-like proteins kinases from *Amycolatopsis mediterranei* long before we met, because I myself also have been interested in signal transduction network of prokaryotes for more than 10 years. After we met in PNNL, we started to talk and quickly began collaboration on investigating the origin, evolution and distribution of protein O-phosphotylation-mediated signal transduction pathway as well as bacterial two-components signal transduction pathway by comparative genomic approaches. The collaboration started two and half years ago and I am very pleased to see that we already have three peer-reviewed publications directly resulted from this collaboration. During this collaboration, I got to know Weiwen well, both as a colleague and a friend. I am expecting that we will continue our collaboration even he may take position outside PNNL.

Weiwen is a well trained microbiologist with great expertise in systems biology, microbial genomics, molecular biology and industrial microbiology. He has strong ability to lead a research program with a clear mind of how to plan and execute an experiment. His analytic and writing skills are superb, as evidenced by his more than thirty peer-reviewed publications. He is well organized and communicates clearly with his colleagues and collaborators. He is also very cordial, approachable and willing to help others. There is no doubt in my mind that he will have very bright scientific research career in the future, thus, I would like to recommend him without any reservation.

If you would like to have more information, please let me know.

Liang Shi, Ph. D.

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