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October 28, 2005

Yves Brun
Syst Biol/Microbiol Faculty Search
Dept of Biology, Indiana University
Jordan Hall 1442, 1001 E. 3rd Street
Bloomington, IN 47405-7005

Dear Yves Brun;

I am writing this letter with my strongest possible support for Dr. Di Jiang who has applied for a faculty position in your department. Di is a truly exceptional scientist who, in my view, is among the most promising young ascidian developmental biologists in the world today.

I first met Di in 2000, when he was a student in the international Embryology course at Woods Hole Marine Biological Laboratory, which I currently direct with Dr. Richard Harland. This intensive international course, in its 112th year, is among the most prominent advanced developmental biology course in the world and attracts top students worldwide on a highly competitive basis. Many of the course alumni are now leading developmental biologists, including two Nobel Laureates. Di stands out as one of the most intelligent, inquisitive, and capable students I can think of in the 12 years that I have taught in the course. During the year that he took the course, Di and I interacted frequently, and I was delighted to learn that he had a strong interest in working as a post-doc on ascidians in the lab of one of my closest colleagues here at UCSB, Bill Smith. In the four years that he has been at UCSB, I have come to know Di nearly as well as any post-doc in my own lab. In fact, he is *physically* located in my own lab: Di has been working at a bench in my lab space and it's been a genuine pleasure having him there. He interacts with members of my group scientifically and socially, and is essentially an honorary member of my own group. Di and I converse very frequently about developmental and evolutionary biology and it has been wonderful having him here.

As Bill Smith will no doubt relay in his letter, Di is unquestionably the star in Bill's lab and has made major seminal contributions to the genetic and developmental analysis of the ascidian *Ciona savigny*. I will not describe Di's research in length because I know that Prof. Smith will do so. However, I am very familiar with his outstanding research on ascidian genetics and embryology, having followed each of his stories as they unfolded. His recent work on the *Ciona prickle* gene was a truly outstanding study and is likely to change the way we think about the planar cell polarity (PCP) pathway in animal morphogenesis. However, this represents the tip of an iceberg: Di is a veritable fount of ideas and has a large number of important projects on development and evolution that he can pursue once he establishes an independent laboratory. Given that the ascidian field is just beginning to burgeon, Di is in an outstanding position to make huge strides in the area and I have little doubt that he will distinguish himself as one of the leading investigators in this area once he has established an independent research group.

Based on my many interactions with him, Di is clearly a superb scholar with a keen intellect, a rigorous and deeply thoughtful researcher, a highly capable and hardworking experimentalist, and an overall extremely insightful and imaginative scientist. I judge Di to be among the top 1 or 2 post-docs I know at this university and would place him in the group with the very best of the 16 post-docs I have trained at U. Wisconsin and UCSB, including my former post-docs, Dr. Morris Maduro, currently an Assistant Professor at the University of California, Riverside, Dr. Brent Derry, Assistant Professor at the Hospital for Sick Children, U. Toronto, Dr. Asako Sugimoto, Group Leader at the Riken Center for Developmental Biology (the top developmental biology institute in Japan), Dr. Kenji Kontani, Associate Professor, U. Tokyo, and Dr. Masamitsu Fukuyama, Assistant Professor, U. Tokyo.

While I have not had the opportunity to observe Di in a teaching environment, I have heard him present seminars on his work and on research from the literature on many occasions. His talks are clear, insightful, accessible, and fascinating and I have no doubt, based on this, that he will be an excellent teacher. Although Di's native language is Mandarin, his English is superb; he has only the mildest accent (to an American's ear). In addition, Di is a genuinely delightful individual: he has a wonderful sense of humor and would be a thoroughly enjoyable departmental colleague.

In summary, I can provide my strongest possible recommendation for Di Jiang for a position as a faculty member at your institution. Di is a remarkable scholar who is doing some of the most exciting research in ascidian development and genetics anywhere in the world and is highly prepared to start an independent research lab. I urge you to invite him for an interview to meet this wonderful scientist first-hand and to hear about his extremely exciting research. He will be a simply superb faculty member for the department that is fortunate enough to attract him.

Sincerely,

Joel H. Rothman
Professor, MCD Biology

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1 November, 2005

Dr. Yves Brun
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Dear Dr. Brun.,

Dr. Di Jiang has requested that I write you concerning his application for an assistant professorship in systems biology. I first met Dr. Jiang in 2001 when he began his postdoctoral work in the laboratory of Dr. Bill Smith at U.C. Santa Barbara. At that time he was starting his study of the *engrailed* gene in the ascidian tunicate *Ciona*. Since this work was a major change from his graduate research, he visited me to ask my advice as my work focuses on the second group of protochordates, amphioxus, and I have an on-going study of evolution of *engrailed* regulation. Since then, I have kept in close touch with him.

Dr. Jiang is a talented researcher. His enthusiasm and interest in evolution and development are very refreshing. He is always thinking of where his research is going and how he will interpret the results depending on how they turn out. I was, therefore, somewhat surprised that his paper on tunicate *engrailed* was not followed up by more papers in 2003 and 2004. However, he is now making up for the deficit. For 2005, he has four research papers either published or submitted, all in highly respectable journals. In addition, his current research on the *Ciona* is quite promising. The Smith lab has established a system for generating germ-line mutants of *Ciona* and has focused initially on notochord mutants because of their clear phenotype. Since the *Ciona* notochord has a fixed number of cells, which are determined early in development, elongation of the notochord is by convergent extension. Therefore, this project should give insights the molecular mechanism of convergent extension in *Ciona* in particular and in organisms in general. Interestingly, the tunicate notochord is a transient structure, which together with the entire larval tail is resorbed at metamorphosis. Comparisons with other classes of tunicates, especially the appendicularian tuicate *Oikopleura*, in which the tail and notochord persist in the adult, would be expected to reveal evolutionary adaptations to a different life history and a different life style. Tunicates, which have quite short life cycles, are quite tractable laboratory organisms and both *Ciona* and *Oikopleura* are in continuous breeding cultures in several laboratories. The only drawback to tunicates is that they are evolving extremely rapidly. The small genomes have lost many genes and duplicated many others independently, and the

body plans are quite divergent even within a class. The larval tail, for example, has been lost repeatedly in the tunicates. Therefore, tunicates are excellent examples of how much genomes and body plans can change without adversely affecting viability, although, they are less useful for understanding mechanisms of development in chordates generally.

Dr. Jiang, although a Chinese national, is thoroughly assimilated into the United States. His spoken and written English are excellent, and he is far more American than Chinese. He is genuinely personable and goes out of his way to assist others. I am particularly impressed that he has no qualms about telephoning me and others in the field to discuss his ideas or to ask questions that cover everything from technical problems to data interpretation.

In sum, Dr. Jiang is a competent researcher and if the goal of the biology department is to hire someone who is certain to find out a lot about a particular developmental system and at the same time may gain insights into such interesting questions as the nature of the constraints that were lifted to allow tunicates to evolve much more rapidly than other deuterostomes, then Di Jiang would be an excellent choice. I recommend him highly.

Sincerely yours,

Linda Z. Holland

Linda Z. Holland
Research Professor