Kewalo Marine Lab
Pacific Biomedical Research Center
University of Hawaii
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Honolulu, HI 96813

October 21, 2005

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

Dear Search Committee,

I have been asked to write a letter for Dr. **Di Jiang** for the faculty opening in your department. I first met Di when he was a student in the Woods Hole embryology course in the summer of 2000. At that time he was a postdoc at the NIH working on zebrafish neurogenesis. Di has an interesting history completing a medical degree in China and earning his Ph.D in immunology at the NIH. He is now working on a marine invertebrate model, and the students and faculty at Woods Hole are partly responsible for this interesting career change.

I cannot speak to the quality of his earlier, more medically related work, but Di is now interested in understanding the molecular basis of morphogenesis. He has chosen the ascidian model system due to the fact that it is highly amenable to optical visualization, the genome has been completely sequenced, and Di's lab (Bill Smith's lab) has pioneered the use of genetics. Di has focused on understanding the origin and function of the notochord. Much of his work has been first-class work on the role of the non-canonical wnt pathway on convergent extension and axial cell polarity, but his natural sense of curiosity and technical confidence is revealed by the range of questions that he has addressed. He has published on problems ranging from genetics and molecular biology, to behavioral physiology and biomechanics. Each of these has been a solid contribution and has been driven by important empirical observations. He has also played a large role in developing techniques to artificially culture ascidians and be able to perform genetic screens in labs around the country. Previously, these animals were difficult to study at locations distant to a steady supply of fresh seawater.

Di has extremely bright, talented and hard working. He has excellent attitude, gets along with others and is fun to talk to about science and how things work. He has an excellent publication record and has clearly thought through his future research program. His desire to use both genetic, molecular, behavioral, and comparative approaches is surely a testament to his broad range of future research questions. I think that Di will make an excellent member of an active, interdisciplinary research department and will be valued by both his colleagues and the students around him. I urge you to take a serious look at this talented young scientist as he has an outstanding future ahead of him.

Sincerely, Mark Q Martindale

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RE: Recommendation for Dr. Di Jiang

Dear Mr. Brun,

It is my pleasure to recommend Dr. Di Jiang for a faculty position in the Department of Biology at Indiana University. I have known Dr. Jiang approximately 13 years during which time he was first employed as a Research Assistant in my laboratory, then advanced to a graduate student in Genetics when the joint George Washington University/National Institutes of Health program was established, and finally carried out postdoctoral work on zebrafish at the NIH in the laboratory of A.J. Chitnis. Prior to coming to the NIH, he was a student at St. Mary's College in Maryland after emigrating to the U.S. following his participation in the student demonstrations that were crushed by the Tiannamen Square Massacre. During the time that I have known Di, I have found him to be a thoughtful and dedicated scientist and a pleasure with which to work. He was one of the best graduate students that I have encountered at the NIH and I think he has a very promising future in the academic field.

When Di first undertook his thesis work, he was most interested in how progenitor cells differentiate in the thymus. We had established several systems in the lab to study early steps in T cell development and he immersed himself in studies designed to reveal the key participating molecules. He was successful in using P53 knockout mice to establish a role for this protein in an early checkpoint in thymic development. This was a surprising result, although it is now generally accepted because previously P53 had been thought to primarily regulate the apoptotic response to DNA damage. He next attempted and ambitious strategy to retrovirally tag early thymic progenitors to carry out fate mapping during mouse thymic development. This idea was nicely thought out, but we encountered a variety of technical difficulties that in the end became insurmountable. Although we have not yet succeeded in this endeavor, we learned a great deal about stages at which early thymic progenitors are transfectable by murine retroviruses. Given the challenges of the tagging project, at my behest Di turned his attention to T cell receptor-

induced apoptosis that occurs during negative selection in thymocyte differentiation. He carried out a number of studies that implicate specific caspase proteases. During these studies he hypothesized that there must be a member of the death-inducing tumor necrosis factor gene family that mediated thymocyte death and set out to scan the EST (expressed sequence tag) database at Genebank for such a molecule. His efforts were successful and we are presently characterizing a novel TNF-like molecule. Though it is too early to tell if this is responsible for thymocyte deletion, its expression pattern strongly suggests that it will have a role in lymphocyte regulation and possibly a role in the central nervous system. Therefore I expect this work will generate another important contribution to the literature. So it should be clear that Di is creative, he gets excited by new ideas and pursues them with great vigor. This made him a very successful member of our group.

When leaving my laboratory, Di expressed interest in pursuing work on fundamental aspects of development in simpler systems. He joined the lab of A. J. Chitnis and has been productive during that experience. Dr. Chitnis would be a more appropriate person to comment on his contributions during his postdoc there. About a year or so ago, Di became interested in the nascent field of ascidian research. He was attracted to his new area because of the simplicity of this organism and its usefulness for genetic research. His visit to Dr. Smith's lab at UCSB convinced him that this was an important system to explore as the basis for his career and he decided to pursue a second postdoctoral fellowship there. I think this is a brilliant move for Di since he has a deep interest in basic aspects of development. It also will be terrific for Dr. Smith to have a highly trained investigator join his team that has experience in development in mammals (the immune system) and zebrafish. I thin that Di's proposal may also be potentially valuable for developing new lines of investigation for cancer research using a simple system. The utility of simple organisms for significant insights into cancer and mammalian biology is well demonstrated. For example, there is no doubt that the study of programmed cell death in C. elegans has shed light on the mechanisms of apoptosis in mammalian cells and how they can become deranged and lead to malignancy. One could reasonably hope that penetrating analyses of ascidian development might yield insights into the basic mechanisms of human malignancy.

I think you will find Di a welcome addition to Indiana University. He is a first-rate investigator, with a formidable molecular biology background and a strong interest in developmental biology. He was one of the hardest working individuals in my lab and, when he left the lab, I missed his company in the late evening hours when I do my experiments. He is dedicated to science and I think he has the ability to be a highly successful independent investigator. I think his career has been greatly advanced by the training in Dr. Smith's laboratory and he could play an important role in this new field of investigation. I strongly recommend him with the greatest enthusiasm as an ideal candidate for a faculty position in your department

Sincerely,

Michael J. Lenardo, M.D.
Senior Investigator