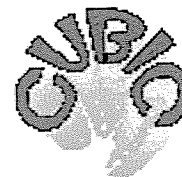


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November 3, 2005

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

Subj.: Letter of reference in support of the application of Dr. Liu

Dear Yves Brun

This letter is in support of Dr. Jinfeng Liu's application for the position as Assistant Professor in your Department. Jinfeng was one of my first graduate students; he was so essential to an important project (target selection in structural genomics) that I convinced him to stay on after his dissertation. During his time in my lab, Jinfeng has been remarkably productive and has carried out research of the highest quality, as evident from the more than twenty papers that he has published in a variety of journals – a truly exceptional publication record for any computational biologists. Jinfeng is an outstanding young scientist who is likely to benefit the research in any leading university.

The topics of Jinfeng's research covered many frontiers of bioinformatics, from comparative genomics, the prediction of protein domain boundaries, to the identification of non-coding RNAs in the transcriptome of higher eukaryotes. His work started with the characterization and comparison of predicted structural and functional features in completely sequenced genomes. The data he generated in that study not only have been benefiting the whole lab, but also laid foundation for his later seminal discovery that proteins with unusually long flexible structures are evolutionary conserved and appear to have important biological functions. Since 2000, Jinfeng has been actively involved in the North East Structural Genomics Consortium (NESG), one of nine structural genomics pilot projects funded by NIH (since Jul 2005, one of the four large structural factories funded by NIH). He has been solely responsible for the target selection; this was undoubtedly one of the most important strategic issues for the pilot projects. Targets proposed by Jinfeng led to the experimental determination of over 200 new protein structures. During the five-year period of the project, he developed two different methods that identify structural domains and a novel sequence-clustering algorithm. These methods were instrumental for the target selection of NESG. His computational efforts undoubtedly contribute significantly to the

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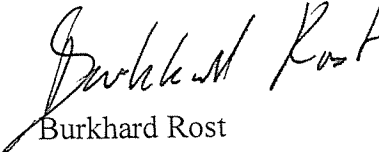
success of the project and the renewal of the second-phase grant to NESG from NIH. Jinfeng's clustering of sequence space into sequence-structure domain families is unique and has already influenced the research in the field.

Throughout his graduate and postdoctoral training, Jinfeng has demonstrated a remarkable capability of independent research. In his most recent efforts of using machine-learning methods to discriminate non-coding RNAs from protein-coding RNAs, which grew out of our collaboration with the RIKEN Institute, he completed the whole project with minimal input from me. After one year into his postdoctoral training, Jinfeng was promoted to the position of "Associate Research Scientist", usually only offered to senior postdocs who have demonstrated sufficient independence and productivity.

One of Jinfeng's distinguished qualities is his deep understanding of the biological problems underling the computational endeavours, an important aspect often ignored by computational biologists. His prior training in molecular biology has helped him to develop close interactions with experimental biologists. In addition to the colleagues at NESG, he has been collaborating successfully with Prof. Wayne Hendrickson at Columbia University, researchers at the Whitehead Institute at MIT, and researchers at the RIKEN Institute in Japan. Within our lab, Jinfeng is also pivotal; he continues to trigger discussions, often provides critical scientific insights important to the work of others, and continues to be the fundament for methods and databases used by our group. He is very well-liked by his peers, and never hesitates to help others with scientific, technical, or even computer problems.

In short, Jinfeng possesses all of the talents one expects from any successful scientist. He is extremely intelligent, hard working, creative, and as I have emphasized above, possesses the crucial quality of understanding biological problems and fostering collaborations. At the capacity of the Vice President of the International Society for Computational Biology, I have met many brilliant young scientists from top research institutions in the US and abroad. Jinfeng is clearly a member of what I consider to be this very elite group. Technically he is genial in many ways. In fact, I have never met anyone who is technically as skilled as Jinfeng. I am confident that he will have a highly successful scientific career and that he will become an outstanding colleague in any department he joins. I recommend him to you in the strongest possible terms.

Sincerely,



Burkhard Rost



ROBERT WOOD JOHNSON
MEDICAL SCHOOL

University of Medicine & Dentistry of New Jersey

Department of Pharmacology

November 7, 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 Dr. Brun,

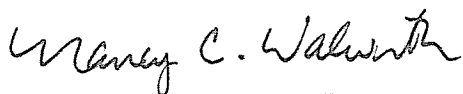
It is with great pleasure that I write to you on behalf of Dr. Jinfeng Liu who is applying for a faculty position in your department. I have known Jinfeng since 1997 when he joined my laboratory as a rotation student, and then came back to do a master's thesis before transferring to Columbia University for his Ph.D. I knew at the time that Jinfeng came back to the lab that he would only be present for a short time. However, I was happy to have him back because of his technical skill, intellectual ability and extremely pleasant personality.

In my laboratory, Jinfeng created a number of molecular biological reagents that have been used by subsequent students for their work. While his stay in the lab did not generate a publication (he was only here for about six months!), his impact on the lab was nonetheless extremely important. Jinfeng is an extremely bright fellow and he helped others in the lab to focus their efforts on important questions. Thus, everyone in the lab benefited from his presence.

It has been exciting for me to follow Jinfeng's work as a Ph.D. student and post-doctoral researcher at Columbia. Clearly he has chosen to move into fields that are growing and especially important in this era of rapidly expanding databases of information. Jinfeng is the kind of scientist who can identify important problems and interesting hypotheses, coupled with the knowledge and skills to dissect them. His post-doctoral time is noticeably short. However, I would argue that for someone as bright as Jinfeng, he is poised to make independent contributions and he has the tools to be able to make them. Thus, there is not much need for him to prolong his post-doctoral studies at this stage of his career—he is anxious to get going on his own and has the ability to do so. Another career choice of Jinfeng's that is worth commenting upon was his decision to stay with his Ph.D. mentor for his post-doctoral work. Given the relative newness of the field of bioinformatics, I think it is not unreasonable that Jinfeng made this decision. One might argue that he has had limited exposure to the ideas of other contributors to the field. However, it is clear from the collaborative projects in which Jinfeng participated that he has had significant contact with other researchers who have undoubtedly had important influences on how he approaches problems and projects. Thus, I suspect that these issues will in no way impede the chances of Jinfeng's success.

In summary, though I only had the opportunity to work with Jinfeng Liu for a short period of time, he is one of the brightest students I have encountered in my career. Even at that early stage of his career, it was clear to me that he knew what he wanted to do and he would pursue his goals with clarity and wisdom. I am pleased to see that he has made important contributions to the field of bioinformatics. As a colleague, Jinfeng is congenial, understanding and encouraging. I suspect that he will make an outstanding mentor in the laboratory. He writes extremely well, which will be an asset to him in grant and manuscript preparation. While he has had limited classroom experience, I suspect he will also be an excellent teacher because as a junior graduate student, he gave articulate presentations of his own work and always did an outstanding job interpreting the work of others in oral presentations. I strongly encourage you to give Jinfeng Liu your most serious consideration. I am certain he will be an asset to any institution and will make important contributions to his field. If I can be of further assistance, please feel free to contact me at 732 235 5661 or walworna@umdnj.edu.

Sincerely yours,



Nancy C. Walworth, Ph.D.
Professor