INDIANA UNIVERSITY

DEPARTMENT
OF PHYSICS

November 16, 2005

Yves Brun
Systems Biology/Microbiology Faculty Search
Department of Biology
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Dear Prof. Brun :

I am writing to give my strongest support for the application of Dr. Yi Jiang for a faculty position in your department. During the past four years I have served on faculty searches in Biocomplexity/Biophysics/Computational Biology that have resulted in the hiring of eleven faculty at levels from assistant to full professor. I have had the opportunity to evaluate hundreds of files, including those of almost all the top computational/theoretical biologists active today. I feel confident that Yi is among the very top of this select group. Though her areas of interest (developmental biology and the biophysics of complex materials) are rather different from theirs, I would rank her with Adam Arkin, Chao Tang and Chris Adami as one of the leading researchers at the interface between biology and physics.

I have known Yi for years, as her Ph.D. advisor, as a collaborator on a few of her many current projects and as a co-organizer with her of several conferences.

Yi has worked on an exceptionally wide range of problems in biological and condensed matter physics and has made significant advances in each. I can think of very few computational physicists at her career stage who have made similarly broad and deep contributions. Besides her very successful work on simulation of biological cell sorting, foam drainage and foam rheology, she has studied bone remodeling, tumor growth, aggregation in *myxobacteria*, mound formation in *Dictyostelium discoideum*, lipid membrane dynamics, polymer rheology and molecular-dynamics techniques. Her publication record is outstanding, with papers in top journals, which have been widely cited and very influential. She is one of the few researchers today with the range of expertise in modeling to assemble the complex multiscale simulations which will be necessary for tissue- and organism-level biological simulations. I am confident that she will succeed in building such models.

Despite Yi's many collaborations (which have been both in-house at LANL and with many outside researchers) she is intellectually independent. Her work has a very recognizable style, which shows how central she has been to driving her collaborations. She is sophisticated, creative, bright and quick to master a broad array of new material. Her insistence on thorough understanding and impatience with toy models is unusual for computational physicists. Much of her insight into what is useful and what not, what is meaningful and what computational artifact derives from her continued involvement with experiments. In my experience, this degree of

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commonsense is rare—it also means that she can easily contribute to, or even lead experimental projects if called on.

Yi is a great communicator. She gives fine seminars, writes extremely well and is adept at transferring her enthusiasm to others. The many invited talks she has presented around the world (many more than for most comparable researchers at her career stage), testify to the high regard in which she is held. She also has an unusual ability to communicate with biologists and to persuade them that biological physics can help answer questions they care about.

Her service record is also outstanding, with numerous large-scale and successful conferences organized both at LANL and elsewhere (again, many more than for the vast majority of comparable scientists).

Yi is quite capable of leading a new program in computational biology or of substantially contributing to one. She has excellent taste in collaboration and will build collaborations throughout your institution. I would also trust her completely both as a mentor to junior faculty and to lead a faculty recruitment effort. Her background means that she will be equally at home in a Department of Physics, Biology, Bioengineering or Mathematics.

Yi has supervised successfully a substantial number of both graduate and undergraduate students, who have absorbed many of her virtues (I have worked with a few). She has thus had a very positive influence on the development of the entire field of biological physics.

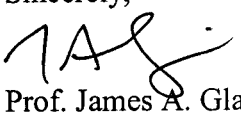
Despite her appointment in a national laboratory, Yi has had many opportunities to teach and does an excellent job. She is serious and organized but also enthusiastic, patient and able to motivate students. She is frail in appearance and gentle in tone, but also extremely strong and tough. She works as hard and with as much focus as anyone I have ever met.

Yi's funding record is also outstanding—she has been co-PI on a substantial number of large, successful grants, again in an unusually broad range of areas. I am certain she will continue to be successful in attracting funding, even in today's competitive climate.

I have no doubt at all that Yi deserves a tenured position in a top university. She has the ability, energy and organizational talents to be a star in any department. If you decide that you want to build your capabilities in multiscale modeling and development, no one available today will do a better job for you.

Please call me if I can supply you with any additional information.

Sincerely,



Prof. James A. Glazier
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