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COLLEGE OF ARTS & SCIENCES
Department of Physics

December 22, 2004

Biocomplexity Faculty Search Committee
Department of Physics
Indiana University
Swain West 117, 727 East 3rd Street
Bloomington, IN 47405-7105, USA

Dear Sir,

Dr. Lizhi Ouyang has applied for a faculty position in your Department. I am most pleased to write this letter of recommendation for him. He came to University of Missouri-Kansas City in 1995 as a graduate student and I was his dissertation advisor. He is unquestionably one of the best students we ever have had. Among the Ph.D. students I have supervised, he is the most talented. Lizhi finished his Ph.D. in August 2000 with a dissertation titled "Parallel Computing and the Electronic Structure of Complex Ceramics and Vitamin B12". This is truly an outstanding piece of work demonstrating that he has totally mastered the theoretical method and the computational techniques developed in our laboratory. His work on vitamin B12 cobalamines has so far resulted in four publications and has set the pace for further computational research into complex biomolecular systems.

At my request, Lizhi stayed on as a Postdoctoral Research Associate in our Department. He has helped me in managing the Electronic Structure Laboratory and continues his research work in electronic structure theory. He made vital contributions in many areas due to his expertise in information technology and computational methodology. He has vastly improved and refined our computational codes and has built a Beowulf cluster system with very limited financial resources. He has been using the supercomputing resources at NERSC allocated to us very effectively, thus enable us to tackle some of the most challenging problems in materials research. He was promoted to Research Assistant Professor about a year ago based on his exceptional research performance and accomplishments.

With only a few years after his Ph.D., Lizhi has grasped the fundamentals of condensed mater physics, quantum chemistry and materials theory. He has greatly improved his communication skills, both in writing and in oral. I have daily discussions with him on almost all topics and am very pleased to observe his deep insights, bold ideas and practical suggestions. He is instrumental in shifting our group's research direction more towards biomaterials. Recently, we have submitted a proposal to NSF titled "Multi-scale computational studies of collagen/apatite interface structures and properties" in collaboration with our colleagues from the School of Dentistry at UMKC. Lizhi is a co-Principal Investigator of this proposal. He has also succeeded in obtaining supercomputer allocation from the NSF Supercomputer Center at the University if Illinois-Champaign for his research.

Lizhi has a very pleasant personality and is always helpful to others. He has helped me in supervising graduate students in my laboratory and in doing so; he serves as their best role model. He has considerable teaching experience by teaching an introductory physics class in our department.

In summary, Lizhi is a very mature scientist with an outstanding research record. He is well trained, highly motivated, very independent, hard working and easy to work with. He is the type of person who has his own ideas and will not hesitate to challenge the established theories or practices. He is certainly on his way to a distinguished career and is more than ready to assume academic positions of greater responsibility. He would be an ideal person to participate in biocomplexity projects in your department. I recommend him very highly.

Sincerely yours,

Wai-Yim Ching
Curators' Professor of Physics

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