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Biocomplexity Faculty Search Committee
c/o Prof R de Ruyter van Steveninck
Biocomplexity Institute
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Friday 7th November, 2003

Dear Sir

Re: Dr Richard H Henchman

I am writing in support of Dr Richard Henchman's application for the post of Assistant Professor in your Department. My name is Dr Jonathan Essex and I was Richard's PhD supervisor.

Richard joined my research group in September 1996 with a prestigious Commonwealth Scholarship. His research work involved the application of free energy calculations to a novel host-guest system. The host is unusual in that not only is it enantioselective, but it also induces a conformational change in the guest molecules on binding. In the course of his research he examined and improved upon methods to calculate electrostatic potential derived charges, and tested the reliability of his method by calculating the free energies of hydration of simple organic molecules using both conventional free energy perturbations and the Linear Interaction Energy method. Two papers reporting this work were published in the Journal of Computational Chemistry. He has also examined ways of improving the sampling of ring systems in Monte Carlo simulations by implementing a 'conrot' algorithm. A final publication on his PhD work describing the free energy results on the host-guest system, and a re-examination of existing experimental data in light of these simulation results, has been submitted. His experience in the application and development of computer simulation methods to the study of small organic molecules has given him an excellent understanding of the strengths and weaknesses of these procedures.

After completing his PhD, Richard moved on as a Postdoctoral Research Associate to the group of Prof McCammon at UCSD. As is apparent from his CV, his research interests have changed from the small-molecule studies he performed with me, to the simulation and modelling of larger protein systems. This combination of experience and skills make Richard entirely suited to working in an interdisciplinary context.

Richard is a highly intelligent and gifted scientist. As is apparent from his CV, he has numerous awards and scholarships to his name, including the prestigious Commonwealth Scholarship. I was most impressed with his ability to work independently and with the minimum of supervision on the most difficult of problems. The work on electrostatic parameter development is almost entirely his own. Richard is also very efficient and highly motivated, often working the extra hours needed to complete his objectives. In terms of personality, Richard is polite and courteous, and has got on well with the other members of my research group.

Richard proved to be an outstanding graduate student, of high intelligence, diligence, and motivation. As is clear from his CV, he has flourished in Prof McCammon's laboratory, significantly broadening his research experience. In my opinion, he is of such quality that an excellent career in science lies ahead of him, and I commend him to you without reservation.

Yours faithfully,

Dr Jonathan W Essex