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November 9, 2004

Dear Prof. de Ruyter van Steveninck,

Andrew Bordner was a postdoctoral researcher in my lab from September of 1999 to December of 2000. He was the first member of my research group, and I was truly fortunate to have him. Although I was sorry to see him leave, I fully supported his move to the group of Prof. Abagayan as an excellent opportunity to further round out his experience. We still keep in touch; he stops by every few weeks.

My research focuses on devising algorithms and software for simulations of large biomolecules and cellular components. One of the main areas of interest are modelling association reactions of two or more biomolecules, such as actin polymerization in the cell. The main computational bottleneck in a simulation is the computation of electrostatic forces, which involves solving the Poisson-Boltzmann partial differential equation. Andy devised a very clever and efficient algorithm, based on boundary element, wavelet, and fast multipole methods, for computing these forces. It is a novel algorithm, because it pre-computes and stores a Green's function for each separate molecule, thereby speeding up convergence. This has been quite a challenge, because he joined me the same week I started my faculty position and developed the algorithm and software from scratch. He has published a manuscript describing this work in the *Journal of Computational Chemistry*. In addition to this work, Andy also developed software to enable us to run ensemble simulations on parallel computer architectures.

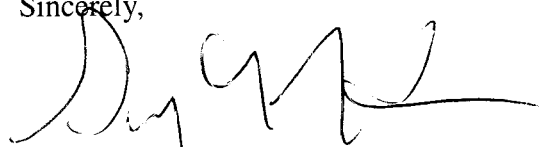
Although he was my first post-doc, I have had contact with many other postdoctoral researchers in this field, and I can safely say that Andy is exceptional. Not only has his physics background provided him with the analytical and mathematical skills needed in this work, he is also a skilled computer programmer who can rapidly translate complicated algorithms into working software. He also learned a great

deal about the biology behind such problems. Furthermore, he independently made contacts on and off campus with a wide variety of researchers, showing a breadth of vision and interests that will serve him well in an academic environment.

Unlike many physicists that I have known, Andy is also very sociable and friendly. For example, he learned to speak Japanese fluently and married a Japanese woman during the few years he spent in Kyoto, starting with no previous knowledge of the language. This is an impressive achievement, considering the difficult research he was conducting at the time. Not only has he been a good colleague, he has also been a good friend; he will fit in and become a leader no matter where he goes. I also have no doubt that he will be an excellent teacher, as he is very adept at explaining the complex and abstract ideas in his current work.

Please feel free to call or email if you have further questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Gary A. Huber". The signature is fluid and cursive, with a long horizontal stroke at the end.

Gary A. Huber, Ph.D

Assistant Professor