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Ms. Yana Teterina Biocomplexity Faculty Search Department of Physics Indiana University 727East 3rd Street Swain Hall West 117 Bloomington, IN 47405-7105

Ref: Wonpil Im, Ph.D.

To whom it may concern:

This is a letter of reference for Dr. Wonpil Im, who is applying for an Assistant Professor position in your Department. I have known Wonpil for about six years, since he came to Weill Cornell Medical College as a graduate student in Benoît Roux' laboratory. During Wonpil's studies at Cornell we regularly discussed issues related to ion permeation through large, non-selective channels, and I became impressed with his insights into both the experimental and theoretical issues.

The problem Wonpil focused on during his graduate studies was ion permeation through large-diameter channels, the porins in the outer membrane of Gram-negative bacteria, which are permeable to both anions and cations. This is a difficult and important problem, which Wonpil addressed using methods ranging from molecular and Brownian dynamics simulations to continuum Poisson-Nernst-Planck descriptions. He contributed importantly to the CHARMM molecular dynamics package, where he developed the PBEQ/GSBP module. The motivation for undertaking these methodological advances, was to overcome the difficulties involved in understanding ion movement through the porins. The literature is replete with less-than stellar descriptions of ion movement through non-selective channels, and Wonpil's combination of molecular and Brownian dynamics brought much-needed "discipline" to the field.

In addition to his thesis research, Wonpil was an enthusiastic participant in a membrane biophysics journal club that I organized. In these sessions he demonstrated his keen analytical skills, whether we were discussing experimental or theoretical articles. He had a real knack of identifying the weak points; but his criticisms, while pointed, invariably were delivered in a modest and unassuming style. Based on these interactions, I believe that Wonpil will be an excellent teacher and mentor of both undergraduate and graduate students.

For his post-doctoral studies Wonpil chose to work with Charles L. Brooks III, where he has continued to examine important questions relating to how best to analyze the electrostatics of membrane proteins – another area where there is need for clear thinking. He has continued to be a most productive investigator, and I am convinced that he will continue to be a most productive investigator who will focus on important problems.

When talking with Wonpil, the initial impression is that he is quiet, almost shy; but as the discussion proceeds, and one gets to know him better, it becomes clear that he has a good sense of humor. He also displays real authority – and he is most helpful to anybody who comes to him for assistance/advice.

In summary, I have the highest regard for Wonpil Im. He is ready to undertake the responsibilities associated with being an Assistant Professor. The Department that is lucky enough to recruit him will indeed be fortunate, as Wonpil will be a wonderful colleague who will contribute in numerous ways. I support Wonpil Im's application with enthusiasm and without any reservations.

Thank you.

Sincerely,

Olof S. Audersen
Olaf Sparre Andersen