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Professor Rob de Ruyter, Chair
Faculty Search Committee
Biocomplexity Institute
Indiana University
Swain Hall West 117
Bloomington, IN, 47405-7105

Dear Professor de Ruyter,

This is a *letter of recommendation for Laszlo Kalman* who is applying for a position as Assistant Professor in your department. I have known Laszlo since he first came to our laboratory in March 1998 as a postdoctoral fellow with high recommendations from his mentor, Peter Maroti. While he was in Peter's laboratory, he had studied the release/uptake of protons from bacterial reaction centers. His project was a new one for us (as well as him), understanding the properties of bacterial reaction centers when they become highly oxidizing. Normally reaction centers operate at relatively low energies but they can be altered to become highly oxidizing by mutagenesis. We were hoping that the mutants would gain some of the functional properties of the evolutionarily related photosystem II that is the most highly oxidizing protein complex in nature. We found these mutants difficult to deal with as they were biochemically unstable. Also, as a consequence of becoming highly oxidizing, the yield of the light-induced reactions correspondingly decreased making spectroscopic measurements difficult. Laszlo persisted in modifying the preparation of the protein such that the protein remained stable. In addition, he worked hard to minimize the noise of the optical measurements so that the low yield signals could be clearly distinguished. He was also key in measuring the light-induced radicals using electron paramagnetic resonance. This resulted in the clear identification of the ability of these mutants to oxidize a new cofactor, namely a tyrosine residue, and led to a publication in Nature. Once this initial work was completed, we began a series of experiments characterizing the mutants. Before these were completed he returned to Hungary in February 2000. He returned for his second visit in July 2001 and is now completing his work. This has resulted in four papers this year with Laszlo as first author and several more to be submitted during the next several months.

The research of Laszlo has been extremely productive due to his excellent technical skills in the laboratory as well as his understanding of the overall questions being pursued. He has worked very independently in the laboratory performing all of the protein purification and many different types of spectroscopic measurements. He has been an excellent colleague in terms of discussion of the experimental results and possible future directions for the project. He has shown himself to be a good teacher in the laboratory as he trained graduate student to work on the project. In addition, although he grew up in Hungary, his English is excellent and he should have no problem with classroom presentations.

Once he is in an independent position as a tenured-track faculty member, the combination of his technical skills and understanding of scientific problems should allow him to rapidly set in place an independent research program that is well funded. Since his research centers on the involvement of protons in biological systems, there are many avenues open for him to explore. Overall, he is an outstanding postdoctoral fellow, certainly one of the best that have been at ASU, who is well poised to become one of the leaders in his field.

Sincerely,

James Allen