December 11, 2003

Dr. Rob de Ruyter van Stevenicnk
Indiana University Bloomington
Department of Physics
727 E. Third St.
Bloomington, IN 47405-7105

Dear Dr. de Ruyter van Steveninck:

I am happy to write in response to your letter requesting an evaluation of Dr. John Marko, whom you are considering for a tenured full professor position in your Department. Dr. Marko is one of a handful of people who think about, and experiment with, DNA, chromatin and whole chromosomes from a physico-mechanical point of view. He is particularly unique with regard to his work on whole chromosomes which, until very recently, was the exclusive province of Dr. Bruce Nicklas at Duke.

Dr. Marko's approach is to apply physical principles to the understanding of experimental observations on chromosome morphology and behavior. He is quite a unique and imaginative person as illustrated by a paper of several years ago, with Eric Siggia, that considered the implications of DNA as a polymer. He also uses unique approaches which, then, yield unique findings. A recent observation, that DNase treatment of an intact metaphase chromosome does not reveal any continuous, rigid underlying core, is a good example. I cannot evaluate Dr. Marko's expertise as a physicist. I can only say that the conclusions he has come to with regard to the physical properties of whole chromosomes are fully concordant with my own understanding of how they should behave, coming to the problem from an entirely different starting point.

Personally, Dr. Marko is open, communicative and collaborative. He should excellent colleague. He does have a tendency to sound overly self-important when giving a talk, at least for my taste, particularly in certain areas in which he may not be deeply informed. But this is not a mean-spirited tendency; when probed about his statements, he is more than willing to discuss and, if necessary, to modify his statements or his point of view.

Further exploration of the interface between physics and the biological sciences is clearly an important future area of scientific research. Dr. Marko seems to me to be an outstanding scientist and one of only a few people who are pioneering this interface in a useful way from a physicists perspective. Assuming that his physics meets your standards, I think that you will find him an excellent person to help you in this area. He not only works at this interface, he attends meetings, discusses, reads and experiments in in both areas. And his outgoing personality should help nucleate other, related studies within his "sphere of influence".

I hope that these comments are helpful.

Sincerely,

Nancy Kleckner
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