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Yves Brun  
Systems Biology/Microbiology Faculty Search  
Department of Biology  
Indiana University  
Jordan Hall 142, 1001 E 3rd St  
Bloomington IN 47405-7005

Dear Dr. Brun:

This letter is to recommend **Peter Houston** for a position in your department. Pete has been a post doc in the lab of my Molecular Biology department colleague Jim Broach since 1999. Throughout this time, I have interacted with Pete at Princeton's weekly yeast meetings, which bring together members of the Princeton research community using yeast as an experimental system. In addition, because Pete's research interests overlap my own, I often interact with Pete over technical or intellectual matters. As a result, I feel that I know Pete well.

Yeast cells come in one of two mating types (determined by the identity of the allele at the MAT locus). In addition, they can switch mating types by a gene conversion event between MAT and a transcriptionally silent copy of the mating type information. Pete started out in Jim's lab working on the Chl1 protein, a putative helicase whose mutation affects the directionality of mating type switching. This project seemed like a good choice given Pete's graduate work in the Kodadek lab where he used biochemical approaches to study helicases that affect recombination. However, Chl1p turned out to be a refractory protein – hard to purify in active form. In addition, although Pete tried several different approaches, such as chromatin immuno-precipitation, he obtained no evidence for a direct role for Chl1p in the switching reaction.

Pete continued to work on elucidating mechanisms that determine directionality in mating type switching but turned from biochemistry to a combination of cell biological and genetic approaches. In collaboration with a graduate student in the Broach lab, Pete showed that directional bias is independent of chromosome architecture (Simon, Houston, Broach 2002 Embo J), a nice piece of work. More recently, he has used a genetic approach to show that the recombinational enhancer, a cis acting site with an important role in directional switching, does not affect inter-chromosomal homologous recombination (Houston, Simon, Broach 2004 Genetics). Again, this is a solid piece of work that provides valuable information as to how the recombination enhancer functions. It is my impression that Pete was the primary force in his collaborative work with Simon. Pete will soon submit a paper that uses sophisticated microscopic methods to analyze the association of the silent mating type locus with MAT during the switching process. His data are quite impressive and he has come to interesting conclusions about the timing and frequency of associations between the recombining loci. He has also identified genes that affect these events. What is clear from these data is that one gets a different and, I think, more complete picture of the recombinational process when you examine the

molecular events at the level of individual cells. The methods that Pete has developed for this project are likely to be generally useful for studying recombination as well as other aspects of chromosome dynamics.

Pete is among the most interactive post docs in our department. He is genuinely interested in a wide range of research topics. He is among a handful of individuals who can be counted on to ask interesting questions during each yeast meeting presentation. Pete usually follows up his comments with more extensive exchanges with the speaker. Many members of my lab have benefited from his insights as Pete is exceptionally generous with advice and technical assistance. He not only makes suggestions for alternative ways to do an experiment, but also offers strains, plasmids, or help with techniques, whatever is appropriate. Because Pete conducts himself in a modest and friendly manner, his suggestions are invariably received positively. I suspect that he is among the best liked and most respected members of the Princeton yeast group and that most participants in our joint lab meetings have profited from his interest in their work. His outgoing and generous nature – intellectually and technically – indicates that he will be an excellent colleague. I am confident that he would be a positive contributor to the intellectual life of a department. As Pete gives clear, enthusiastic talks, I suspect that he will also be a successful teacher.

In summary, Peter Houston is a well and diversely trained molecular biologist, with expertise in biochemical, cell biological and genetic approaches to questions of chromosome behavior. In addition, he is exceptionally enthusiastic and interactive. I think he will make an excellent colleague.

Sincerely,

A handwritten signature in cursive script that reads "Virginia A. Zakian".

Virginia A. Zakian  
Harry C. Wiess Professor in the Life Sciences