November 14, 2005

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

Dear Professor Brun,

I am writing to recommend Duncan Odom, PhD, for a faculty position. Duncan is an outstanding young scientist and an exceptional candidate for a junior faculty position at any University.

I first met Duncan in1999 when he was a graduate student at CalTech and was my host during a visit. He expressed interest in coming to my lab for postdoctoral research. I quickly became convinced of his intellectual talent and his passion for pursuing interdisciplinary problems. In addition, his graduate advisor Jacqueline Barton spoke glowingly of his abilities and promise as a young scientist.

Duncan was awarded a highly competitive Sloan Foundation/DOE Computational Biology fellowship and began postdoctoral work in my laboratory in 2001. He joined a small team of postdocs and graduate students who had begun to map the genomic binding sites of two hundred transcriptional regulators in yeast. Duncan's exceptional intellectual and experimental talents were evident from the beginning of his involvement. He provided important input into the concepts and experimental design of this study. He performed almost a third of the experiments reported in the initial paper that emerged from the work, and he played a fundamentally important role in data analysis. Had he joined the group a few months earlier, Duncan's leadership would have merited first authorship of the work we published on the yeast transcriptional regulatory network in Science.

After the end of his first year of his work in my laboratory, Duncan decided to lead the lab into the study of global transcriptional regulation in mammals. Duncan led a small team to create the 13,000 promoter microarray that we have used as a primary tool for our studies of human transcriptional regulatory networks for the last two years. He decided to focus his studies on transcriptional regulation of human hepatocytes and pancreatic islets because he was impressed with the quality and quantity of previous studies in this area, the importance of certain transcriptional regulators in diabetes, and access to cell lines and primary tissue. Duncan then engaged Graeme Bell, one of the leaders in pancreatic beta cell biology, to collaborate and mentor us in this area. He then found investigators within the US human tissue distribution programs to obtain transplant grade tissues for his project.

Duncan determined the genomic occupancy of HNF1α, HNF4α, and HNF6 in primary human hepatocytes and pancreatic islet preparations using genome-scale location analysis, and used these datasets to begin mapping the regulatory networks active in these two tissues. His work revealed new insights into diabetes that we reported last year in *Science*. He found that the pancreatic islet-specific P2 promoter of HNF4α which was recently recognized as a type 2 susceptibility locus, is occupied by the other HNF factors, and that HNF4α itself occupies promoters for a large portion of the genes expressed in these tissues. These observations likely explain why misregulation of HNF4α can lead to disease.

In summary, during the four years he has been in my lab, Duncan has mastered a new genomic technology that involves sophisticated experimental and computational tools, engaged some of the best talent in a field in his research program, and discovered an important new insight into liver and pancreas gene expression. He is pioneering an interdisciplinary path I suspect many others will attempt to follow. Duncan has become a force within the community of investigators who are trying to gain a deeper understanding of the biology of mammalian liver and pancreas. He has the intellectual and personal energy that is needed to continue to be a young leader in this area. And finally, he is a great colleague. For these reason, Duncan has my strongest endorsement as a candidate for Assistant Professor.

Sincerely,

Richard Young