BANTING AND BEST DEPARTMENT OF MEDICAL RESEARCH

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Jeremy Bennett
Faculty Search Coordinator
Department of Biology
Indiana University
1001 East 3rd Street
Jordan Hall 127
Bloomington, IN 47405-3700

Dear Mr. Bennett:

I am pleased to write a letter of support for Peter Houston's application for a faculty position at your institution. I first met Peter at the 2002 Yeast FASEB meeting on Yeast Chromosome Structure, Replication and Segregation and, ever since then, we have communicated with each other on a regular basis. Peter is a very sharp and curious person with incredible enthusiasm for science. His experience and current research interests are focused on yeast molecular genetics analysis of DNA repair, but he thinks broadly about science and particularly enjoys discussing all aspects of biology.

As part of a collaborative study in the Broach lab, Peter used a clever green fluorescent protein tagging strategy to follow the preference for a donor locus during mating type switching [Simon et al., EMBO 21:2282-2291 (2002)] and showed that donor locus preference does not result from a predetermined organization of chromosome III. Peter has also studied RE, a locus on the left arm of chromosome III that activates the surrounding region for recombination. Peter showed that RE has an effect on interchromosomal mating-type switching and on intrachromosomal homologous recombination but does not effect interchromosomal homologous recombination [Houston et al., Genetics 166: 1187-1197 (2004)]. This second study involved a sophisticated genetic analysis of recombination mechanisms and demonstrates Peter's in-depth understanding of DNA repair and recombination and highlights his general interest in genetic approaches.

More recently, Peter has been utilizing flow cell technology to examine live cells performing mating type switching by high performance deconvolution microscopy. By examining numerous cells and quantifying the data, he has been able to assay more persistent chromosomal associations that correspond to the HO-mediated cut, providing a new assay for genetic analysis of HO-mediated recombination. Peter presented this work and his quantitative analysis at the Cold Spring Harbor yeast Cell Biology Meeting and his talks was clearly one of the highlights of the meeting.

Peter has also developed an elaborate protocol for moving a recombinant copy of chromosome III, carrying hmr::YFP hml::CFP, into the set of viable deletion mutants. This

screen takes full advantage of our synthetic genetic array technology for automated strain construction and will allow for a visual (or cell sorting) screen for mutants defective for switching donor preference. This highly creative and elaborate screen is up and running and has already allowed Peter to identify new genes involved in mating type switching donor preference. I really think this is some of Peter's most exciting work. Indeed, this screen alone should generate numerous graduate student projects and will undoubtedly serve as a solid foundation of Peter's research lab.

Peter is an out going and very social individual. He is broadly interested in literature, music and world affairs. He has a great sense of humor and a wonderfully positive disposition. Indeed, I always look forward to seeing Peter at meetings and discussing science and numerous other topics. I really think Peter has all the makings of a great colleague and wonderful graduate student mentor. He is very close to a second major publication from his postdoc and so this is a good time to interview him and see the major potential of his system. I recommend Peter Houston highly and suggest you consider his application carefully.

Sincerely,

Charlie Boone,
Professor, BBDMR,
University of Toronto