I am seeking to recruit motivated, enthusiastic postdoctoral fellows to my laboratory. I have funding for these positions for *at least* one year, with the expectation of continued support.

We primarily use yeast to study mechanisms of nutrient sensing and signaling, and evolutionary processes, and to develop novel methods of genome analysis. Below is a brief description of the research that is currently being pursued in my lab. A complete list of our publications can be found in my CV at: [http://www.uchsc.edu/sm/bbgn/johnstonm.html](http://www.uchsc.edu/sm/bbgn/johnstonm.html).

We recently moved into beautiful new state-of-the-art space in the highly collegial Department of Biochemistry and Molecular Genetics at the University of Colorado School of Medicine in Denver. I can report that Denver is a great place to live, and that CU Medical School our Department is a great place to do science ([http://www.uchsc.edu/sm/bbgn/chairman.htm](http://www.uchsc.edu/sm/bbgn/chairman.htm))!

Motivated, curious and independent individuals interested in joining us in Denver should send (preferably by e-mail) a letter of inquiry stating research interests along with a CV.

Sincerely,

Mark Johnston
**Postdoctoral positions**

**Nutrient Sensing & Functional Genomics**

**Mark Johnston Laboratory**
Department of Biochemistry and Molecular Genetics
University of Colorado School of Medicine, Denver, CO
[Mark.Johnston@ucdenver.edu](mailto:Mark.Johnston@ucdenver.edu)

**Glucose sensing and signaling in *S. cerevisiae* and *C. albicans***

Glucose fuels life, and organisms have evolved sophisticated mechanisms for sensing and responding to this key nutrient. This is especially apparent in the yeast *S. cerevisiae*, which has several sophisticated mechanisms for sensing and utilizing the widely varying amounts of glucose it encounters during its lifetime. We are focused on a novel glucose signal transduction pathway that begins with glucose sensors in the membrane and ends at a transcription factor in the nucleus. We can trace the glucose signal from the cell surface all the way to the nucleus, and we are poised to come to a true understanding of how this novel signal transduction pathway works. We are also studying the evolution and systems biology of this signaling pathway. Our studies of glucose sensing and signaling extend to the pathogenic yeast *C. albicans* because it provides an informative evolutionary comparison, and because this central signaling pathway may provide therapeutic targets.


**Functional Genomics**

We are applying Next Generation DNA sequencing technology to address questions in evolutionary and developmental biology. We have developed a novel “Calling Card” method to trace transcription factor binding throughout the differentiation of stem cells. We are also using ChIP-Seq to learn how regulatory networks evolve. We continue to find new ways to apply this emerging technology to our projects, so I foresee this part of the lab expanding.


Cliften PF, Fulton RS, Wilson RK, and **JOHNSTON M**: After the duplication: gene loss and adaptation in *Saccharomyces* genomes. *GENETICS* 2006; 172:863-872. PMID: 16322519;

The University of Colorado is committed to diversity and equality in education and employment.