

## **Joshua B. Kelley, Ph.D.**

Assistant Professor of Biochemistry  
Molecular Biology and Biomedical Sciences  
310 Hitchner Hall  
University of Maine  
Orono ME, 04469

### **Education**

- 2000-2008      Ph.D. Biochemistry and Molecular Genetics, University of Virginia  
Dissertation: "Regulation of the Ran GTPase"  
Advisor: Bryce Paschal
- 1996-2000      B.S. Chemistry with Spec. in Biochemistry, B.A. Biology, University of Virginia

### **Professional Experience**

- 2016 – present    Assistant Professor of Biochemistry, Department of Molecular and Biomedical Sciences, University of Maine
- 2015 – 2016      Visiting Assistant Professor of Biology, Washington and Lee University
- 2010 – 2015      Postdoctoral Research Associate in the Elston and Dohlman Labs, University of North Carolina at Chapel Hill
- 2008 - 2010      Postdoctoral Research Associate in the Paschal Lab, University of Virginia

### **Present Research Projects**

I study the spatio-temporal regulation of the yeast G-protein coupled receptor signaling pathway in yeast. I use live cell microscopy in custom microfluidic devices, computational image analysis, yeast genetics, and biochemical approaches. I am specifically investigating the role of RGS regulation in gradient tracking.

### **Teaching**

#### **Fall 2016**

- BMB 491 Biochem, Micro and Molecular Biology Research
- BMB 580 Seminar in Microbiology
- BMB 699 Graduate Thesis / Research
- 7 Undergraduates currently mentored in lab

#### **Spring 2017**

- BMB 322 Biochemistry

**Previous Extramural Funding**

- 2011 -2013 at UNC: **American Heart Association Postdoctoral Fellowship** (11POST7600017)  
“The Role of Cdc42 GAPs in GPCR Signaling” \$82,000

**Publications**

- Venkatapurapu SP, **Kelley JB (co-first author)**, Dixit G, Pena M, Errede B, Dohlman HG and Elston TC. *The RGS protein Sst2 Regulates Receptor Dynamics during the Mating Response of Yeast* Mol Biol Cell 2015 Nov 11.
- Nagiec MJ, McCarter PC, **Kelley JB**, Dixit G, Elston TC, Dohlman HG. *Signal inhibition by a dynamically-regulated pool of mono-phosphorylated MAPK*. Mol Biol Cell. 2015 Jul 15.
- **Kelley JB**, Dixit G, Sheetz JB<sup>#</sup>, Venkatapurapu SP, Elston TC, and Dohlman HG. *RGS Proteins and Septins Cooperate to Promote Chemotropism by Regulating Polar Cap Mobility*. Curr. Biol. 2015 Feb 2.
- Dixit G, **Kelley JB**, Houser JR, Elston TC, and Dohlman HG. *Cellular Noise Suppression by the Regulator of G Protein Signaling Sst2*. Mol Cell, 2014 July 3.
- Ni L, Llewellyn R, Kesler C, **Kelley JB**, Spencer A, Snow CJ, Shank L, and Paschal BM. *Androgen Induces a Switch from Cytoplasmic Retention to Nuclear Import of the Androgen Receptor*. Mol Cell Biol. 2013 Oct 7.
- Paciorkowski AR, Weisenberg J, **Kelley JB**, Spencer A, Tuttle E , Ghoneim D, Thio LL, Christian SL, Dobyns WB, Paschal BM. *Autosomal recessive mutations in nuclear transport factor KPNA7 are associated with infantile spasms, partial agenesis of the corpus callosum, and cerebellar vermis hypoplasia*. Eur J Hum Genet. 2013 Sep 18.
- **Kelley JB**, Datta S, Snow CJ, Chatterjee M, Ni L, Spencer A, Yang CS, Cubeñas-Potts C, Matunis MJ, Paschal BM. *The defective nuclear lamina in Hutchinson-Gilford progeria syndrome disrupts the nucleocytoplasmic Ran gradient and inhibits nuclear localization of Ubc9*. Mol Cell Biol. 2011 Aug; 31(16):3378-95.
- Zhu M, Torres MP, **Kelley JB**, Dohlman HG, Wang Y. *Pheromone- and RSP5-dependent ubiquitination of the G protein beta subunit Ste4 in yeast*. J Biol Chem. 2011 Aug 5; 286(31):27147-55.
- **Kelley JB**, Talley AM<sup>#</sup>, Spencer A, Gioeli D, Paschal BM. *Karyopherin alpha7 (KPNA7), a divergent member of the importin alpha family of nuclear import receptors*. BMC Cell Biol. 2010 Aug 11; 11:63.
- Shank LC, **Kelley JB**, Gioeli D, Yang CS, Spencer A, Allison LA, Paschal BM. *Activation of the DNA-dependent protein kinase stimulates nuclear export of the androgen receptor in vitro*. J Biol Chem. 2008 Apr 18; 283(16):10568-80.
- **Kelley JB**, and Paschal BM. *Hyperosmotic Stress Signaling to the Nucleus Disrupts the Ran Gradient and the Production of RanGTP*. Mol. Biol. Cell 2007 18; 4365-4376
- Yang CS, Xin HW, **Kelley JB**, Spencer A, Brautigan DL, Paschal BM. *Ligand Binding to the Androgen Receptor Induces Conformational Changes That Regulate Phosphatase Interactions*. Mol. Cell. Biol. 2007 27; 3390-3404
- Racke FK, Wang D, Zaidi Z, **Kelley J**, Visvader J, Soh JW, Goldfarb AN. *Potential Role for Protein Kinase C-ε in Regulating Megakaryocytic Lineage Commitment* J. Biol. Chem. 2001 276; 522-528.

# undergraduate co-author

**Book Chapters:**

- Paschal BM and **Kelley JB**. *Nuclear Lamina*. In: Encyclopedia of Biological Chemistry 2nd Ed. Elsevier; Feb 2013

**University and Professional Service**

- 2016-2017 Graduate Board Representative for MBS

**Scientific Outreach**

- ASCB Minorities Affairs and Education Committees Poster Competition Judge, 2014
- Virginia Piedmont Regional Science Fair Judge (subject area and best in show) in 2005, 2006, 2008, and 2009