

Elizabeth Lauren Johnson, Ph.D.

ASSISTANT PROFESSOR

Division of Nutritional Sciences
Cornell University
301 Biotechnology Building
Ithaca, NY 14850
elj54@cornell.edu
www.johnsonlab.nutrition.cornell.edu

EDUCATION

Princeton University	
Ph.D. Molecular Biology	(Jan 2014)
Spelman College	
B.S. Biology, Magna Cum Laude	(May 2008)

PROFESSIONAL POSITIONS

Assistant Professor

Division of Nutritional Sciences, Cornell University (2018 – present)

Postdoctoral Research Associate

Department of Molecular Biology, Cornell University (2014 – 2018)

Visiting Researcher

Institute of Human Nutrition, Columbia University (2014 – 2018)

RESEARCH EXPERIENCE

POSTDOCTORAL RESEARCH ASSOCIATE *Cornell University, Ithaca NY* (Feb '14 – June '18)

- Postdoc advisor: Professor Ruth Ley
- Visiting research fellow in the lab of Dr. Tilla Worgall at the Institute of Human Nutrition at Columbia University Medical Center (New York, NY)
- Project: Effects of sphingolipid dependent host-microbe interactions on the development of obesity related diseases in mammals

GRADUATE STUDENT *Princeton University, Princeton NJ* (Aug '08 – Jan '14)

- Thesis advisor: Professor Hilary Collier
- Dissertation Title: Genomic profiling of alternative isoform expression and RNA stability during fibroblast quiescence

HONORS AND AWARDS

Princeton University Patrice Y. Johnson Memorial Service Award	(2014)
National Science Foundation Graduate Research Fellowship	(2009 – 2014)
Princeton University Department of Molecular Biology Teaching Award	(2012)
Phi Beta Kappa	(2008)
Spelman College Departmental Honors	(2008)

FELLOWSHIPS

- National Science Foundation Graduate Research Fellowship, Princeton University (2010 – 2014)
- Center for Behavioral Neuroscience Grant for Undergraduate Research, Georgia Institute of Technology (2006 – 2008)

TEACHING EXPERIENCE

Guest Lecture

- BIOMI 3210 “Diet and the Microbiome” Cornell University, Ithaca NY (Spring 2016)

Teaching Assistant

- MOL 348 Cell and Developmental Biology Princeton University, Princeton, NJ (Spring 2012)
- MOL 101B From DNA to Human Complexity (Fall 2011)
- MOL 214 Introduction to Cellular and Molecular Biology (Spring 2010)

PROFESSIONAL and COMMUNITY SERVICE

- President, Princeton University’s Black Graduate Caucus (2010 – 2013)
- Molecular Biology Outreach Princeton University (2008 – 2012)
 - Co-founder of a graduate student committee focused on developing demonstrations and experiments to introduce young students to the excitement of scientific inquiry

PRESENTATIONS and CONFERENCES

Center for Microbiome Innovation (CMI) International Microbiome Meeting (March 2019)

- Invited Talk “Sphingolipid production by gut microbiota regulates host metabolism”

Precision Nutrition and Metabolism in Public Health and Disease (September 2018)

- Invited Talk “Sphingolipid production by gut microbiota regulates liver ceramide metabolism”

ASM Beneficial Microbes (September 2016)

- Selected Talk “Sphingolipid-producing bacteria affect host lipid metabolism”

ASM Beneficial Microbes (September 2014)

- Presented poster “Effect of microbiota-dependent sphingolipid metabolism on host sphingolipid homeostasis”

Department Seminar Speaker at The College of New Jersey (November 2012)

- Invited Talk “Length Matters: How differential 3’UTR isoform expression is involved in the maintenance of reversible cell cycle exit”

PUBLICATIONS

1. Heaver SL, **Johnson EL**, Ley RE: Sphingolipids in host-microbial interactions. *Curr Opin Microbiol* 2018, 43:92-99.
2. **Johnson EL**, Heaver SL, Walters WA, Ley RE: Microbiome and metabolic disease: revisiting the bacterial phylum Bacteroidetes. *J Mol Med* 2017, 95(1):1-8.
3. Mitra M, **Johnson EL**, Swamy VS, Nersesian LE, Corney DC, Robinson DG, Taylor DG, Ambrus AM, Jelinek D, Wang W *et al*: Alternative polyadenylation factors link cell cycle to migration. *Genome Biol* 2018, 19(1):176.

4. Lee HN, Mitra M, Bosompra O, Corney DC, **Johnson EL**, Rashed N, Ho LD, Collier HA: RECK isoforms have opposing effects on cell migration. *Mol Biol Cell* 2018:mbcE17120708.
5. **Johnson EL**, Robinson DG, Collier HA: Widespread changes in mRNA stability contribute to quiescence-specific gene expression patterns in a fibroblast model of quiescence. *BMC Genomics* 2017, 18.
6. Suh EJ, Remillard MY, Legesse-Miller A, **Johnson EL**, Lemons JMS, Chapman TR, Forman JJ, Kojima M, Silberman ES, Collier HA: A microRNA network regulates proliferative timing and extracellular matrix synthesis during cellular quiescence in fibroblasts. *Genome Biol* 2012, 13(12).
7. Wang DJ, Legesse-Miller A, **Johnson EL**, Collier HA: Regulation of the let-7a-3 Promoter by NF-kappa B. *Plos One* 2012, 7(2).
8. **Johnson EL**, Suh EJ, Chapman TR, Collier HA: Identifying Functional miRNA Targets Using Overexpression and Knockdown Methods. In: *Regulatory RNAs: Basics, Methods and Applications*. Edited by Mallick B, Ghosh Z. Berlin, Heidelberg: Springer Berlin Heidelberg; 2012: 295-317.
9. Legesse-Miller A, Raitman I, Haley EM, Liao A, Sun LL, Wang DJ, Krishnan N, Lemons JMS, Suh EJ, **Johnson EL et al**: Quiescent fibroblasts are protected from proteasome inhibition-mediated toxicity. *Mol Biol Cell* 2012, 23(18):3566-3581.
10. Lemons JMS, Feng XJ, Bennett BD, Legesse-Miller A, **Johnson EL**, Raitman I, Pollina EA, Rabitz HA, Rabinowitz JD, Collier HA: Quiescent Fibroblasts Exhibit High Metabolic Activity. *Plos Biol* 2010, 8(10).
11. **Johnson EL**, Cunningham TW, Marriner SM, Kovacs JL, Hunt BG, Bhakta DB, Goodisman MAD: Resource allocation in a social wasp: effects of breeding system and life cycle on reproductive decisions. *Mol Ecol* 2009, 18(13):2908-2920.

PAPERS IN PREPARATION

1. **Johnson EL**, Heaver S, Kim BI, Bretin A, Goodrich JK, Waters J, Clark N, Shi Q, Goodman AL, Gewirtz AT, Worgall TS, Ley RE. Sphingolipid production by gut Bacteroidetes regulates host sphingolipid homeostasis.