

Elizabeth Lauren Johnson, Ph.D.

ASSISTANT PROFESSOR

Division of Nutritional Sciences
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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)

HONORS AND AWARDS

NIH NIGMS Early Stage Investigator Maximizing Investigators' Research Award	(2020)
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)

PUBLICATIONS

1. Lee, MT, Le HH, and **Johnson EL**. Dietary sphinganine is selectively assimilated by members of the mammalian gut microbiome. *J Lipid Res* (2020).
2. Le HH and **Johnson EL**. Going Keto? Say β HB-ye Bye to Your Gut Bifidobacteria. *Cell Host Microbe* (2020) **28**: 3-5.
3. **Johnson EL**, Heaver SL, Waters JL, Kim BI, Bretin A, Goodman A, Gewirtz A, Worgall T, Ley RE. Sphingolipids produced by gut bacteria enter host metabolic pathways impacting ceramide levels. *Nature Communications* (2020), **11**: 2471.
4. Heaver SL, **Johnson EL**, Ley RE: Sphingolipids in host-microbial interactions. *Curr Opin Microbiol* (2018), **43**:92-99.
5. **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.
6. 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.

7. 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.
8. **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.
9. 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).
10. 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).
11. **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.
12. 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.
13. 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).
14. **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.

GRANT SUPPORT

Granting Agency: Biotechnology Resource Center Seed Grant Role: PI
Award Period: November 2019 – November 2020
Title: Defining interactions of dietary lipids with the gut microbiome

Granting Agency: NIH NIGMS Role: PI
Award Type: R35 (Early Stage Investigator MIRA)
Award Period: August 2020 – July 2025
Title: Sphingolipid-dependent host-microbe interactions

TEACHING EXPERIENCE

Instructor	Cornell University, Ithaca, NY	
• NS1220	Nutrition through the life cycle	(Spring 2020)
Guest Lecturer	Cornell University, Ithaca, NY	
• NS6140	“The microbiome during pregnancy, lactation, and early infant feeding”	(Fall 2019)
• NS1220	“Diet and the Microbiome”	(Spring 2019)
• BIOMI 3210	“Diet and the Microbiome”	(Spring 2016)
Teaching Assistant	Princeton University, Princeton, NJ	
• MOL 348	Cell and Developmental Biology	(Spring 2012)
• MOL 101B	From DNA to Human Complexity	(Fall 2011)

- MOL 214 Introduction to Cellular and Molecular Biology (Spring 2010)

MENTORING EXPERIENCE

Postdoctoral Fellows

- Henry Le, PhD Role: Research Mentor (Sept 2019 – present)

Graduate Students

- Min-Ting Lee – PhD Student Role: Committee Chair (Jan 2019 – present)
- Brianna Tate – PhD Student Role: Committee Member (Jan 2019 – present)
- Amanda Davis – PhD Student Role: Committee Member (Jul 2018 – Jul 2020)
- Wanhui Kang – PhD Student Role: Committee Member (Jun 2019 – present)

Undergraduate Students

- Rebecca Ekeanyanwu Role: Research Advisor (Sept 2019 – present)
- Victoria Montero Role: Research Advisor (Jan 2019 – Aug 2019)
- Tyra Onley Role: Summer Research Advisor (June 2019 – Aug 2019)

PROFESSIONAL and COMMUNITY SERVICE

- Cornell Microbiome Supergroup Meeting, Founder and Organizer (2019 -)
- American Society for Nutrition, Member (2018 -)
- American Society for Microbiology, Member (2014 -)
- President, Princeton University's Black Graduate Caucus (2010 – 2013)
- Princeton University Molecular Biology Outreach, Founder (2008 – 2012)

PRESENTATIONS and CONFERENCES

- Cornell BBS Symposium (August 2019)
 - Invited Speaker “Exogenous sphingolipids affect gut microbes and host metabolism”
- Center for Microbiome Innovation (CMI) International Microbiome Meeting (March 2019)
 - Invited Speaker “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”