

# Matt Ulgherait, Ph.D.

102 Creel Street. Chapel Hill, North Carolina 27516  
Mattulgh@unc.edu

---

## EDUCATION

---

**University of California Los Angeles, CA**  
Ph.D. Department of Biological Chemistry – September 2014

**Drexel University, Philadelphia, PA**  
Bachelor of Science in Biology – June 2007

---

## RESEARCH EXPERIENCE

---

Columbia University, New York, NY  
Postdoctoral Scholar, Assistant Scientist, October 2014 - present  
PI – **Mimi Shirasu-Hiza**, Ph.D.  
Circadian regulation of metabolism and physiology in *Drosophila*

University of California, Los Angeles, CA  
Graduate Student Researcher, October 2008 – 2014  
PI – **David Walker**, Ph.D.  
Metabolic and physiological processes of aging in *Drosophila*

Drexel University College of Medicine, Philadelphia, PA  
Research Assistant, April 2006 – September 2007  
PI - **Jane Azizkhan-Clifford**, Ph.D.  
Functions of ubiquitous transcription factor Sp1 in response to DNA damage

Centocor (Johnson & Johnson), Radnor, PA  
Assistant Molecular Biologist, March – September 2005  
PI - **Ping Tsui**, Ph.D.  
Engineering therapeutic antibodies against the Respiratory Syncytial Virus

---

## PUBLICATIONS

---

1. Siewert J, Haung Y, Chen A, McAllister S, Wang H, Canman J, Shirasu-Hiza M, **Ulgherait M**. Directed evolution of the *Drosophila* microbiome for improved intestinal health and lifespan extension. *In preparation*
2. Tener S, Lin Z, Park S, Oraedu K, **Ulgherait M**, Martínez-Muñiz A, Stavropoulos N, Ja ww, Canman JC, and Shirasu-Hiza M. Neuronal knockdown of Cullin3 as a *Drosophila* model of autism spectrum disorder *Scientific Reports* 14, 1541 (2024). <https://doi.org/10.1038/s41598-024-51657-9>
3. Pantalia M, Lin Z, Tener SJ, Qiao B, Tang G, **Ulgherait M**, O'Connor R, Delventhal R, Volpi J, Syed S, Itzhak N, Canman JC, Fernández MP, Shirasu-Hiza M. *Drosophila* mutants lacking the glial neurotransmitter-modifying enzyme Ebony exhibit low neurotransmitter levels and altered behavior. *Scientific Reports*. 2023 Jun 27;13(1):10411. doi: 10.1038/s41598-023-36558-7.
4. Delventhal R, Wooder E, Basturk M, Sattar M, Lai J, Bolton D, Muthukumar G, **Ulgherait M**, Shirasu-Hiza M. Dietary restriction ameliorates Traumatic Brain Injury (TBI) phenotypes in *Drosophila Melanogaster*. *Scientific Reports*. 2022 Jun 9;12(1):9523. doi: 10.1038/s41598-022-13128-x.
5. **Ulgherait M**, Midoun A, Park SJ, Klickstein N, Gato J, Ja WW, Canman JC, Shirasu-Hiza M. Circadian autophagy drives longevity response to Intermittent Time-Restricted-Feeding (iTRF). *Nature*. 2021. doi: 10.1038/s41586-021-03934-0
6. **Ulgherait M**, Chen A, McAllister S, Delventhal R, Wayne CR, Garcia CJ, Recinos R, C. Canman JC, Picard M, Owusu-Ansah M, Shirasu-Hiza M. Circadian-regulated mitochondrial uncoupling controls longevity. *Nature Communications*. 2020 Apr 11(1):1927. doi:10.1038/s41467-020-15617-x
7. Delventhal R, O'Connor RM, Pantalia MM, **Ulgherait M**, Kim HX, Basturk MK, Canman JC, Shirasu-Hiza M. Dissection of central clock function in *Drosophila* through cell-specific CRISPR-mediated clock gene disruption. *ELife*. 2019 Oct 15;8. pii: e48308. doi: 10.7554/eLife.48308.

---

## PUBLICATIONS, CONTINUED

---

8. Salazar AM, Resnik-Docampo M, **Ulgherait M**, Clark RI, Shirasu-Hiza M, Jones DL, Walker DW. Intestinal Snakeskin Limits Microbial Dysbiosis during Aging and Promotes Longevity. *iScience*. 2018 Nov 30;9:229-243. doi:10.1016/j.isci.2018.10.022.
9. O'Connor RM, Stone EF, Wayne CR, Marcinkevicius EV, **Ulgherait M**, Delventhal R, Pantalial MM, Hill VM, Zhou CG, McAllister S, Chen A, Ziegenfuss JS, Grueber WB, Canman JC, Shirasu-Hiza MM. A *Drosophila* model of Fragile X syndrome exhibits defects in phagocytosis by innate immune cells. *Journal of Cell Biology*. 2017 Mar 6;216(3):595-605. doi: 10.1083/jcb.201607093.
10. **Ulgherait M**, Chen A, Oliva MK, Kim HX, Canman JC, Ja WW, Shirasu-Hiza M. Dietary Restriction Extends the Lifespan of Circadian Mutants *tim* and *per*. *Cell Metabolism*. 2016 Dec 13;24(6):763-764. doi:10.1016/j.cmet.2016.11.002.
11. Allen VW, O'Connor RM\*, **Ulgherait M\***, Zhou CG, Stone EF, Hill VM, Murphy KR, Canman JC, Ja WW, Shirasu-Hiza MM. period-Regulated Feeding Behavior and TOR Signaling Modulate Survival of Infection. *Current Biology*. 2016 Jan 25;26(2):184-194. doi: 10.1016/j.cub.2015.11.051. \* equal contribution
12. **Ulgherait M**, Rana A, Rera M, Graniel J, Walker DW. AMPK modulates tissue and organismal aging in a non-cell-autonomous manner. *Cell Reports*. 2014 Sep 25;8(6):1767-1780. doi: 10.1016/j.celrep.2014.08.006.
13. Hur JH, Bahadorani S, Graniel J, Koehler CL, **Ulgherait M**, Rera M, Jones DL, Walker DW. Increased longevity mediated by yeast NDI1 expression in *Drosophila* intestinal stem and progenitor cells. *Aging*. (Albany NY). 2013 Sep;5(9):662-81.
14. Gong M, Chen Y, Senturia R, **Ulgherait M**, Faller M, Guo F. Caspases cleave and inhibit the microRNA processing protein DGCR8. *Protein Science*. 2012. 21(6):797-808. doi:10.1002/pro.2062
15. Rera M, Bahadorani S, Cho J, Koehler CL, **Ulgherait M**, Hur JH, Ansari WS, Lo T Jr, Jones DL, Walker DW. Modulation of longevity and tissue homeostasis by the *Drosophila* PGC-1 homolog. *Cell Metabolism*. 2011 Nov 2;14(5):623-34. doi:10.1016/j.cmet.2011.09.013.

Publication links: <https://scholar.google.com/citations?user=NrmIRKoAAAAJ&hl=en>

---

## FELLOWSHIPS/GRANTS

---

**American Federation of Aging Research (AFAR) Glenn Foundation Fellowship**, July 2019 – July 2020  
-Engineering the *Drosophila* microbiome for intestinal health and lifespan extension. (\$60,000)

**Charles H. Revson Foundation Senior Postdoctoral Fellowship in Biological Sciences**, July 2017 – July 2019  
-Circadian regulation of mitochondrial function and longevity. (\$80,000/year)

**Columbia University Endocrinology and Metabolism Fellowship NIH 5T32K007328-37**, July 2016 – July 2017  
-Circadian control of insulin signaling in *Drosophila*. (\$43,000)

**Hyde Foundation Fellowship (UCLA)**, September 2013-June 2014  
-AMPK regulates interorgan autophagy in aging. (\$30,000)

**EUREKA Fellowship for Innovation (UCLA)**, September 2012-June 2013  
-AMPK coordinates non-cell-autonomous regulation of autophagy and lifespan. (\$30,000)

**UCLA Cellular and Molecular Biology Training Grant NIH 5T32GM007185-35**, June 2009 – June 2012  
-N-end rule regulation of DGCR8 function and miRNA biogenesis. (\$28,000/year)

**American Heart Association Western States Affiliates Predoctoral Fellowship**, May 2009  
-Control of miRNA biogenesis regulates mouse heart development. (\$23,000/year)  
Awarded, but participation declined due to mutual exclusivity with above fellowship.

---

## AWARDS

---

Outstanding Postdoctoral Fellow Award (CUIMC) 2022

Life Sciences (UCLA) Outstanding Teaching Award, 2009-2010

Drexel University Relations Scholarship, 2006-2007

William Ebling Scholarship, 2003-2005

---

## INVENTIONS

---

Shirasu-Hiza M, Canman JC, **Ulgherait M**. Activation of circadian regulated autophagy as a therapeutic intervention. Application filed 09/2020. CU21009

Shirasu-Hiza M, Canman JC, **Ulgherait M**. Oxidative stress resistant gut microbiota as a therapeutic. Application filed 03/2020. CU20155

Shirasu-Hiza M, Canman JC, **Ulgherait M**. Mitochondrial uncoupling for cancer treatment, delayed aging or life extension. Patent filed 01/2018. Patent pending.  
[http://innovation.columbia.edu/technologies/CU18230\\_mitochondrial-uncoupling-for-cancer](http://innovation.columbia.edu/technologies/CU18230_mitochondrial-uncoupling-for-cancer)

Shirasu-Hiza M, Canman JC, **Ulgherait M**, Allen V, O'Connor RM. Inhibition of circadian regulation or mTORC2 increases immunity against specific bacterial infections. Patent Filed 11/2015, Patent pending.  
<https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2017083835>

---

## INVITED SPEAKING PRESENTATIONS

---

You are what you eat: Circadian autophagy and time-restricted-feeding (TRF)  
The Allied Genetics Conference *Drosophila* May 2022

Circadian autophagy drives time-restricted-feeding (TRF) longevity extension  
Gerontology Society of America, November 2022

Modulation of longevity and mitochondrial uncoupling by the circadian clock  
New York area Clock Club, September 2018

Circadian control of mitochondrial metabolism and longevity in *Drosophila*  
Gordon Conference, Aging and longevity, July 2017

Circadian control of metabolism and longevity in *Drosophila*  
Columbia University, Genetics and Development retreat, October 2016

Circadian genes *tim* and *per* regulate lifespan and metabolism in *Drosophila*  
The Allied Genetics Conference TAGC, July 2016

AMPK functions in a cell-non-autonomous manner to modulate tissue and organismal aging  
Molecular, Cellular and Development Biology series UCLA, January 2014

Regulation of microRNA processing through degradation of DGCR8 by the N-end rule pathway  
Biological Chemistry annual retreat, May 2009

---

## PROFESSIONAL MEMBERSHIPS/SERVICE

---

Peer Review, Aging Cell, April 2020-present.

American Aging Association (AGE) 2019 – present

American Federation for Aging Research (AFAR) 2019-present

Gerontological Society of America (GSA) 2019 – present

Genetics Society of America (GSA) 2014-present (discontinuous)

---

## TEACHING EXPERIENCE

---

Life Sciences Core Curriculum, UCLA

Teaching Assistant for Introduction to Molecular Biology, Spring 2009, Spring 2010

Biology of Aging – Life Sciences, UCLA

Teaching Assistant for Spring 2013, Spring 2014.

---

## STUDENT MENTORSHIP SELECTED

---

**Adil Midoun** – Masters Student, École Normale Supérieure/CUIMC, Mentored 2019

Authorship: Ulgherait et al. 2021

Current position: Ph.D. Student, École Normale Supérieure.

**Meghan Pantalia\*** – Graduate Student, Columbia University, Mentored 2015 - 2020

Authorship: O'Connor et al. 2017, Delventhal et al. 2019.

Current position: Senior Life Sciences Consultant, LEK Consulting.

**Sophie McAllister** – Undergraduate Researcher, Columbia University, Mentored 2015-2018

Authorship: Ulgherait et al. 2020. O'Connor et al. 2017.

Current position: M.D. Student, Columbia University Irving Medical Center.

**Jocelyn Recinos\*** – Graduate Rotation Student, Columbia University, Mentored 2017

Authorship: Ulgherait et al. 2020

Current position: Ph.D. Student, Columbia University Irving Medical Center.

**Anna Chen** – Undergraduate Researcher, Columbia University, Mentored 2015-2018

Authorship: Ulgherait et al. 2020. O'Connor et al. 2017. Ulgherait et al. 2016.

Current Position: M.D. Student, University of Toronto Medical School

**Miles Oliva\*** – Undergraduate Researcher, Columbia University, Mentored 2014-2016

Authorship: Ulgherait et al. 2016

Current Position: Healthcare Coordinator/Educator, Los Angeles County Department of Health.

**Jacqueline Graniel\*** – Undergraduate Researcher, UCLA., Mentored 2013 -2014

Authorship: Ulgherait et al. 2014, Hur et al. 2013

Current Position: M.D./Ph.D. Student, University of Michigan Medical school

\*-Underrepresented minority students.

---

## REFERENCES

---

**Mimi Shirasu-Hiza, Ph.D.** Associate Professor.

Department of Genetics, Columbia University.

Ms4095@columbia.edu, 212-305-4186

**David Walker, Ph.D.** Professor.

Department of Integrative Biology and Physiology, UCLA.

davidwalker@ucla.edu, 310-825-7179

**Leanne Jones, Ph.D.** Professor.

Department of Anatomy and Geriatrics, UCSF.

Leanne.jones@ucsf.edu, 415-617-5583

**Julie Canman, Ph.D.** Assistant Professor.

Department of Pathology, Columbia University.

jcc2210@cumc.columbia.edu, 212-305-5017