

Jeffrey M. Copeland, Ph.D.

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Positions and Employment

- Associate Professor, Eastern Mennonite University, Harrisonburg, VA 2015 – present
Pre-Professional Health Sciences, Chair
- Visiting Faculty Scholar, University of Virginia, Charlottesville, VA 2017 – 2019
Advisor: B. Jill Venton (Chemistry)
Research: Dopamine measurements in adult *Drosophila* using fast-scan cyclic voltammetry;
characterization of Parkinson's gene *RNF11* in *Drosophila*
- Assistant Professor, Eastern Mennonite University, Harrisonburg, VA 2009 – 2015
- Postdoctoral Researcher, University of California, Los Angeles, CA 2007 – 2009
Advisor: David Walker (Integrative Biology and Physiology)
Research: Respiratory chain impact on *Drosophila* aging and mitochondrial structure
- Postdoctoral Researcher, California Institute of Technology, Pasadena, CA 2005 – 2007
Advisor: Bruce Hay (Biology and Biological Engineering)
Research: Role of deubiquitinating enzymes in *Drosophila* programmed cell death
- Research Technician, California Institute of Technology, Pasadena, CA 1996 – 1999
Advisor: Paul Sternberg (Biology and Biological Engineering)

Education

- Ph.D., Biology, California Institute of Technology, Pasadena, CA 2005
Advisor: Bruce Hay (Biology and Biological Engineering)
Research: *echinus*, a deubiquitinating enzyme in *Drosophila* involved in eye development
- B.A., Biology, University of Virginia, Charlottesville, VA 1996
Distinguished Major in Biology, High Honors, Phi Beta Kappa

Publications and Pre-Prints

* indicates EMU students

1. Privman, E, Donelson, N, Pyakurel, P, Wolin, D, Ostendor, L, Denno, M, Borman, R, Burke, C, Short-Miller, JC*, Yoder, MR*, **Copeland, JM**, Sanyal, S, Venton, BJ. RING finger protein (RNF11) modulates dopamine release in *Drosophila*. 2021. *Neurosci*, 452, 37-48.
Pre-print: BioRxiv, doi: <https://doi.org/10.1101/2020.06.29.177857>

2. Shin, M, **Copeland JM**, Venton, BJ. Real-time measurements of stimulated dopamine release in compartments of the adult *Drosophila melanogaster* mushroom body. 2020. *Anal. Chem*, *92*, 14398-14407.
Pre-print: BioRxiv, doi: <https://doi.org/10.1101/2020.06.29.177675>
3. Wang, Y, **Copeland, JM**, Shin, M, Chang, Y, and Venton, BJ. CD73 or CD39 deletion reveals different mechanisms of formation for spontaneous and mechanically-stimulated adenosine release and sex specific compensations in ATP degradation. 2020. *ACS Chem Neurosci*, *11*, 919-928.
4. Keppley, LJW*, Nafziger, AJ*, Liu, Y, Hirsh, J, and **Copeland JM**. RNAi Targeting of the respiratory chain affects *Drosophila* life span depending on neuronal subtype. 2018. *BIOS*, *89*, 35-44.
5. Shin, M, **Copeland JM**, Venton, BJ. *Drosophila* as a model system for neurotransmitter studies. 2018. *ACS Chem Neurosci*, *9*, 1872-1883.
6. Cormier, DT*, Berry, AB*, Rhodes, MF*, **Copeland JM**. What makes humans human?: a review of important genetic differences between chimpanzees and humans. 2017. *JofSR*, *2*, 1-6.
7. Reesor, MJ*, King, IJ*, **Copeland JM**. Development of a tetracycline resistant strain of *E. coli* sensitive to ultraviolet radiation. 2014. *JofSR*, *3*, 63-68.
8. **Copeland JM**, Cho J, Lo T Jr, Hur JH, Bahadorani S, Arabyan T, Rabie J, Soh J, Walker DW. Extension of *Drosophila* lifespan by RNAi of the mitochondrial respiratory chain. 2009. *Curr Biol*. *19*, 1591-8.
9. Ribaya JP, Ranmuthu M, **Copeland J**, Boyarskiy S, Blair AP, Hay B, Laski FA. The deubiquitinase *emperor's thumb* is a regulator of apoptosis in *Drosophila*. 2009. *Dev Biol*. *329*, 25-35.
10. **Copeland JM**, Bosdet I, Freeman JD, Guo M, Gorski SM, Hay BA. *echinus*, required for interommatidial cell sorting and cell death in the *Drosophila* pupal retina, encodes a protein with homology to ubiquitin-specific proteases. 2007. *BMC Dev Biol*. *7*, 82.
11. Vernooij SY, **Copeland J**, Ghaboosi N, Griffin EE, Yoo SJ, Hay BA. Cell death regulation in *Drosophila*: conservation of mechanism and unique insights. 2000. *J Cell Biol*. *150*, 69-76.

Awards and Grants

Virtual Library of Virginia, July, 2021 – June, 2022, \$2000
VIVA Open Adopt Grant, Role - PI

National Science Foundation, Oct, 2018 – Sept, 2021, \$83,391
"MRI: Acquisition of a fluorescence stereomicroscope to enhance research and teaching at Eastern Mennonite University" Role: Co-PI

Virginia Academy of Science, Small Project Research Grant, Jun, 2018 – Jun, 2019, \$1,250
"*Drosophila* life span extension by electron transport chain RNAi in glutamatergic motor neurons" Role: PI

Eastern Mennonite University, Summer Research Grant, 2012, \$1,500
"Extension of life span in *Drosophila* through tissue specific inhibition of the electron transport chain" Role: PI

Student Presentations

* indicates EMU students

Short-Miller, J*, Yoder, M*, Venton, BJ, and Copeland, JM. RING Finger Protein 11 (RNF11) modulates dopamine release: Modeling Parkinson's disease in *Drosophila*. Undergraduate Research Symposium, University of Maryland, Baltimore Campus, Baltimore, MD, October 2019.

Mast, G*, Garber, C*, and Copeland, JM. The involvement of a *Drosophila* mitochondrial fission gene in oxidative stress resistance, Virginia Academy of Science, University of Mary Washington, Fredericksburg, VA, May 2016.

Harnish, D*, Wenger, E*, and Copeland, JM. Neuronal basis for aging in *Drosophila melanogaster*, Virginia Chapter of the American Society of Microbiology, Mary Baldwin College, Staunton, VA, April 2016.

Johnson, B* and Copeland, JM. A *Drosophila* mutant resistant to oxidative stress, Virginia Academy of Science, Norfolk State University, Norfolk, VA, May 2012.

Professional Conferences Attended

UVA Brain Symposium, University of Virginia, May 2019

Virginia Chapter of the American Society of Microbiology, Eastern Mennonite University, April 2019

Health Professions Advisor Conference, West Virginia School of Osteopathic, March 2019

Virginia Health Professions Advisors Consortium, Washington and Lee, April, 2017

Health Professions Advisor Conference, West Virginia School of Osteopathic, March 2017

Virginia Academy of Science, University of Mary Washington, May 2016

Virginia Chapter of the American Society of Microbiology, Mary Baldwin College, April 2016

Virginia Health Professions Advisors Consortium, Virginia Tech Carillion School of Medicine, November, 2015

JMU Symposium, Teaching Gateway Courses Institute, James Madison University, August 2015.

Virginia Health Professions Advisors Consortium, University of Virginia, April, 2015

Virginia Academy of Science, Norfolk State University, Norfolk, VA, May 2012

JMU May Symposium, Teaching Gateway Courses Institute, James Madison University, May 2011.

NSF-CCLI Annual Microarray Workshop, James Madison University, July, 2010.

Courses Taught

Advanced Cell Biology (BIOCH 398); Molecular Genetics (BIOCH 438); Molecules, Genes, and Cells (BIOL 225); Immunology (BIOL 337); Advanced Microbiology (BIOL 327); Microbiology (BIOL 202); Nutrition Fundamentals (BIOL 242); Life Science Practicum (BIOL 219, shadowing program for prehealth students); Research Topics (BIOL 355); Concepts in Biology (BIOL173)

Professional Memberships

Genetics Society of America

Virginia Academy of Science

National Association of Advisors for the Health Professions

Virginia Health Professions Advisors Consortium

EMU and Community Service

Chair, Pre-Professional Health Sciences

Chair, Institutional Animal Care and Use Committee

Institutional Review Board

Chair, 2011 – 2015

Advisory Committee for Master's Program in Biomedicine

Faculty Status Committee

Faculty Senate, 2012 – 2014

Research Advisor for Massanutten Regional Governor's School for high school seniors