

KANSAS STATE UNIVERSITY

Division of Biology Presents:

Neural Targeting of Aging and Age-Related Disease

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Neurons perceive environmental stress, project to peripheral tissues, and systematically control health and longevity. However, our knowledge of the neuronal connectivity, the metabolic remodeling, and the cross-tissue communication that promote both lifespan and healthspan is still limited. Our previous work identified that neurotransmitters serotonin and dopamine modulate dietary restriction mediated longevity in response to food odor, which can be mimicked by serotonin and dopamine antagonists. We recently further identified multiple neuromodulating compounds that target a wide-range of neurotransmitters consistently extend lifespan and healthspan of both wild-type and neurodegenerative disease models of *Caenorhabditis elegans*. We will use the tractable model organism *C. elegans* to identify the common neuronal mechanisms and metabolic pathways targeted by neural perturbations that convey benefits of both lifespan and healthspan extension. We showed that genes in the pathways of fatty acid and lipid metabolism are required for the health benefits of neuromodulating compounds. We will utilize these compounds as tools to interrogate the common mechanisms of neuronal perturbations in regulating neuronal hemostasis and metabolism remodeling in delaying aging and improving proteotoxicity related neurodegenerative diseases.

If you would like to visit with Dr. Shijiao Huang, please contact Jocelyn McDonald at jmcdona@ksu.edu.

Coffee & snacks served preceding the seminar in Ackert Hall, Room 225