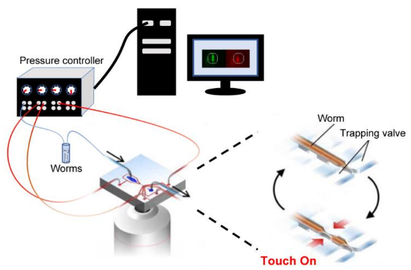
# High-throughput platforms for quantitative measurements of various biological events using microfluidics, automation, image process and machine learning

HARVARD MEDICAL SCHOOL

## Neuronal Functional Study

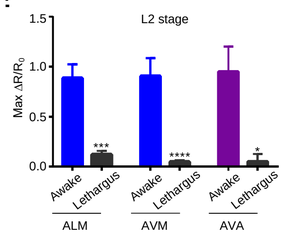
### *Mechanosensation in C. elegans (Drug screening; sleep study)*

**Automated platform**



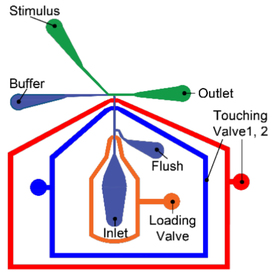

**Drug screening by neuronal activity**


**Neuronal response at sleep mode**

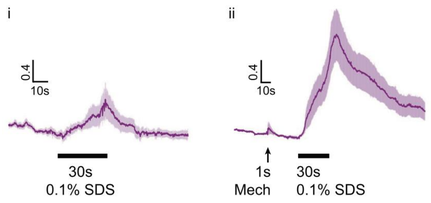



Cho, *Lab chip* 2017; Cho, *Lab Chip*, 2018

### *Multimodal sensation in C. elegans (Neuropeptide study)*

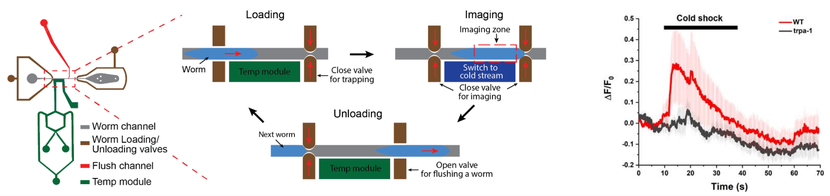



**Cross-modal sensitization**




Cho* Lee*, *Small, 2020*

### *Thermosenation in C. elegans*





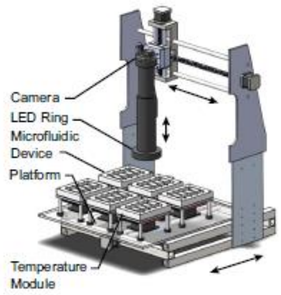


Lee*, Cho*, *Submitted*

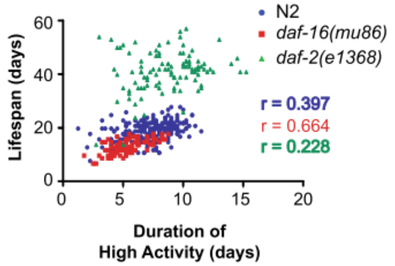
## Lifespan and Healthspan

### *Investigate genetic, environmental effects on C. elegans life- and healthspan*

**Automated platform**

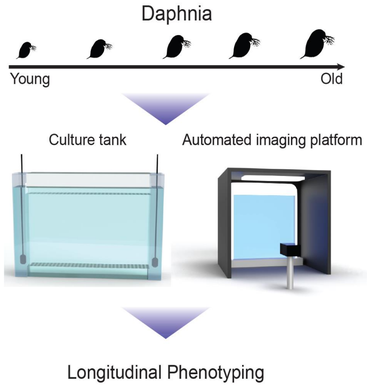



**Intrapopulation variation**



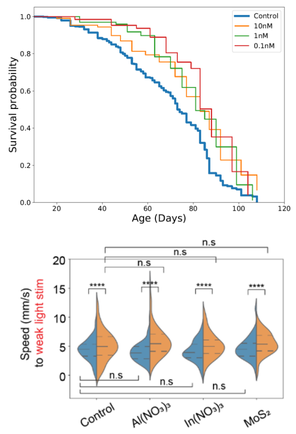

Le*, Zhan*, Cho*,
*Communication Biology*, 2020

### *Intervention Testing platform*




Cho, *Aging Cell*, 2022

### *Evaluate the effect of anti-aging drug & nanomaterials on animal healthspan*




Cho, *in preparation;* Cho *in preparation*