

Individual Differences in Life Expectancy

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Bachelor: x **Master Thesis:** x **Individual Study Activity:** x

Link: <https://sites.google.com/site/steinerbiodemographylab/group/uli>

A great diversity of senescence (aging) patterns among, but also within species is observed. Such patterns are driven by variability in life expectancy among individuals. To date it is not clear what drives such variability, how it evolves, and once evolved how it is maintained. Theories argue individuals show such great variability in life span based on environmental differences, genetic heterogeneity, other hidden characteristics (epigenetics, frailty), or simply chance (stochastic processes).

Using a microfluidic system on individual bacteria we aim at shedding new light on the evolution and maintenance of variability in life span among individuals. The system provides unique opportunities to control the environment and the genetics and hence can separate causes for variability. The short generation times also allow for experimental evolution studies with respect to environmental variability.

