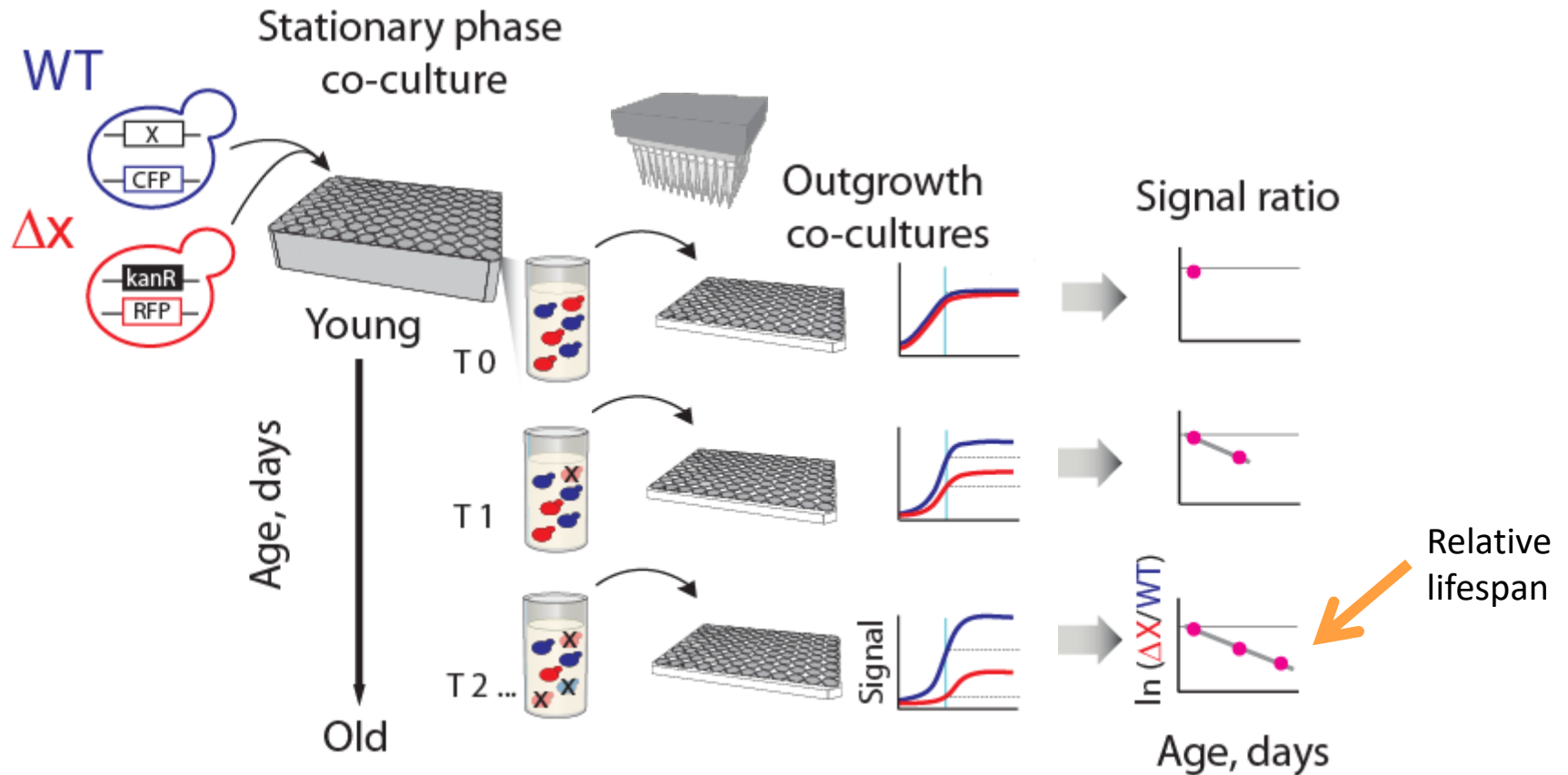


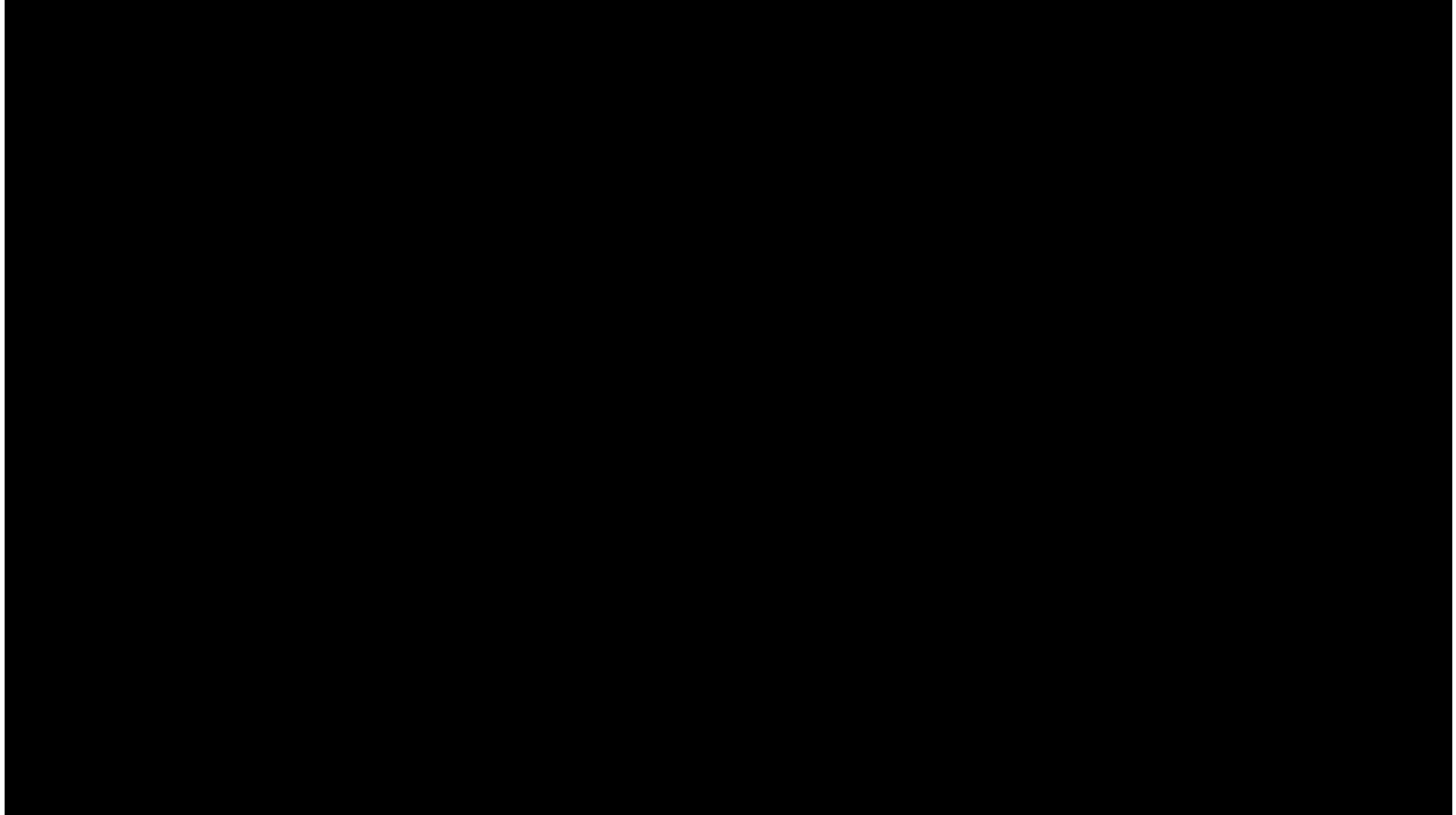
Understanding how genes, environment,
and their interactions influence
aging and longevity

Alexander De Luna
CINVESTAV MÉXICO

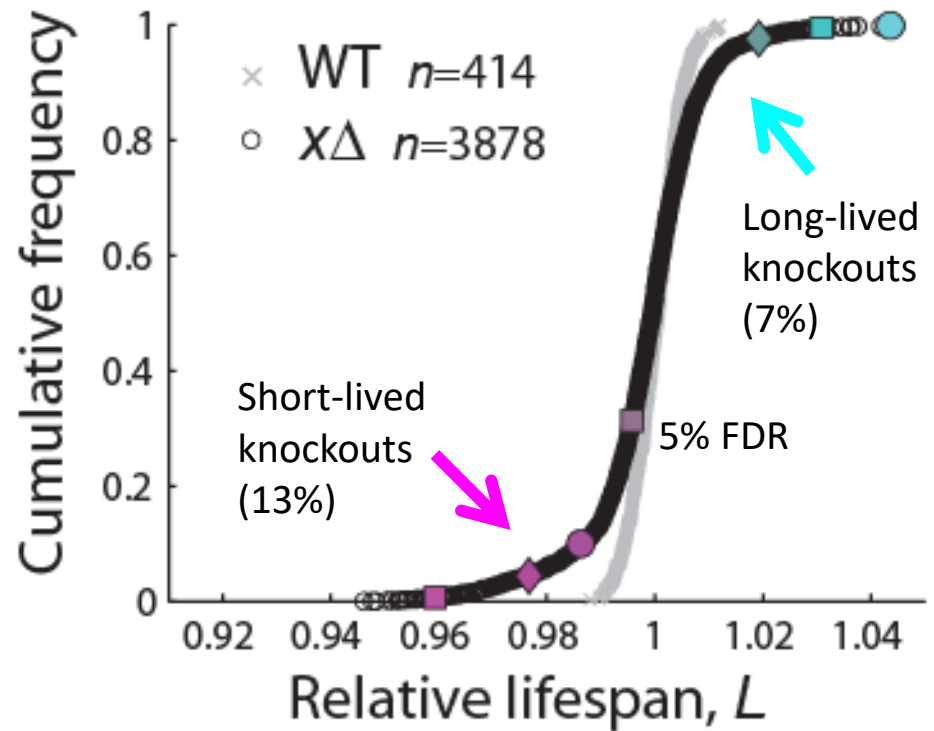
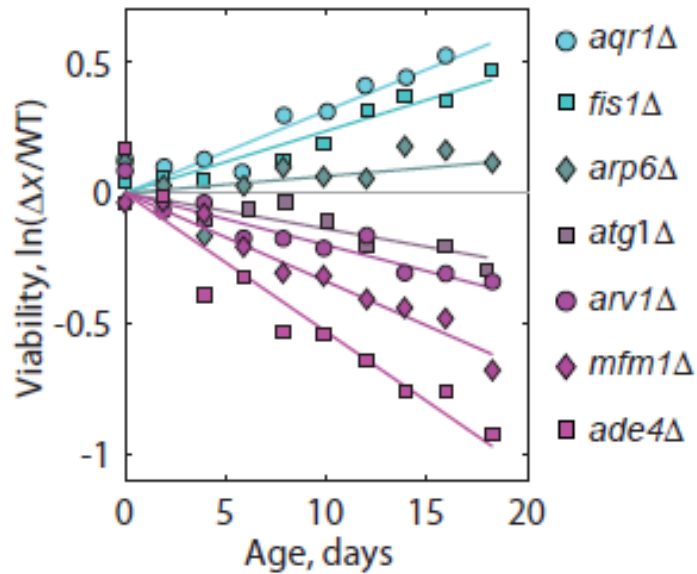
We developed a high-resolution strategy to characterize the **chronological lifespan** of yeast



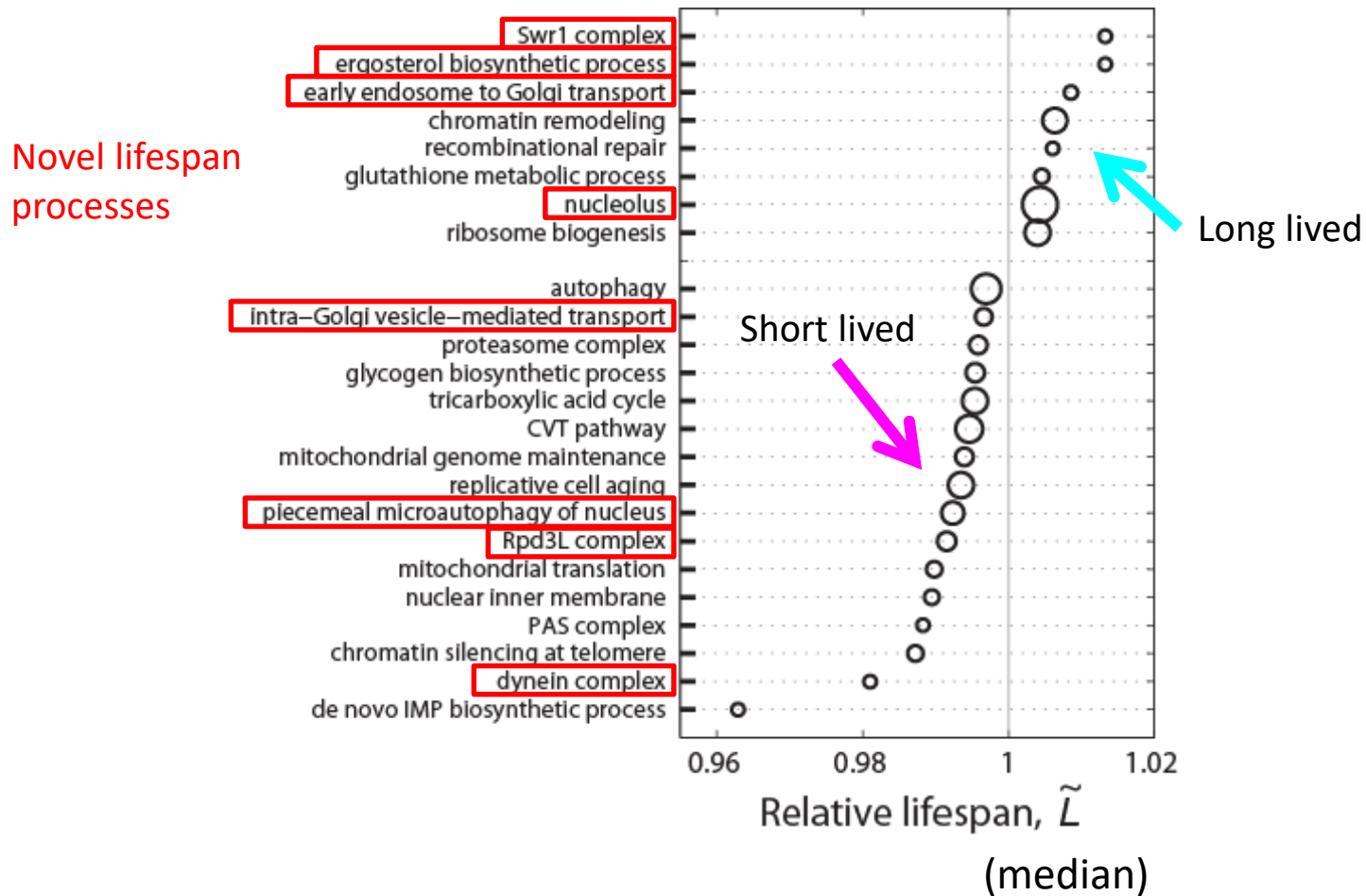
We integrated an **automated cell-assay** station to scale-up our genetic analyses of yeast aging



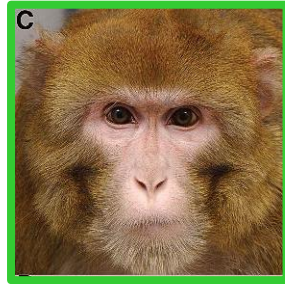
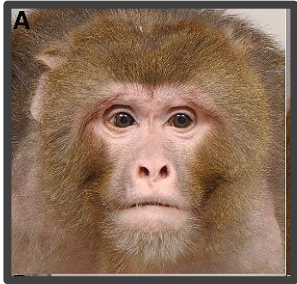
A large-scale **single-knockout** screen shows that a substantial part of the genome influences yeast lifespan



We identified **novel processes** that influence the lifespan of yeast cells



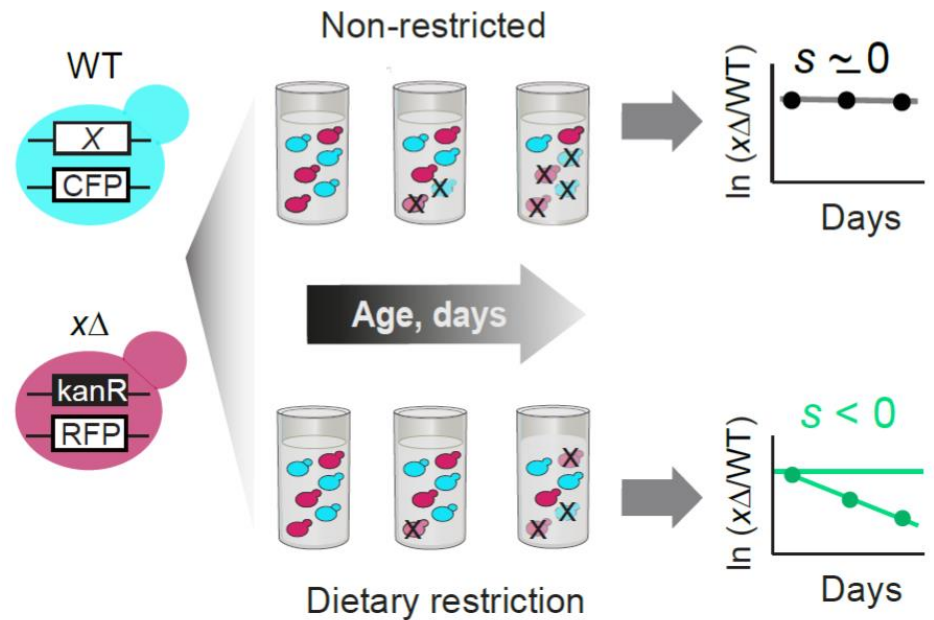
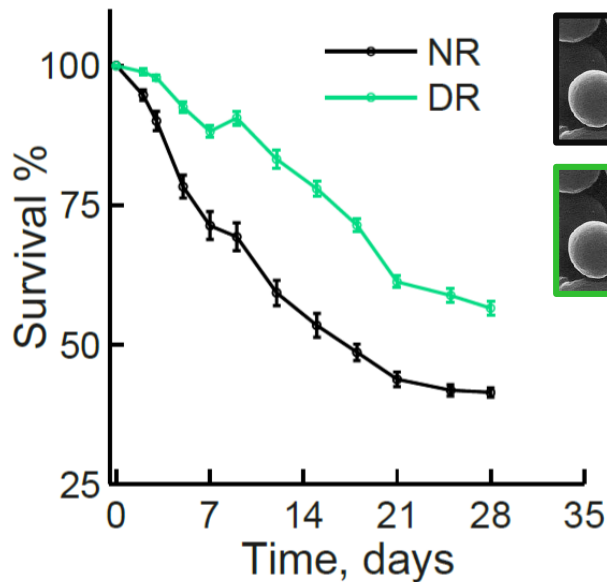
Dietary restriction extends the lifespan of organisms from yeast to primates



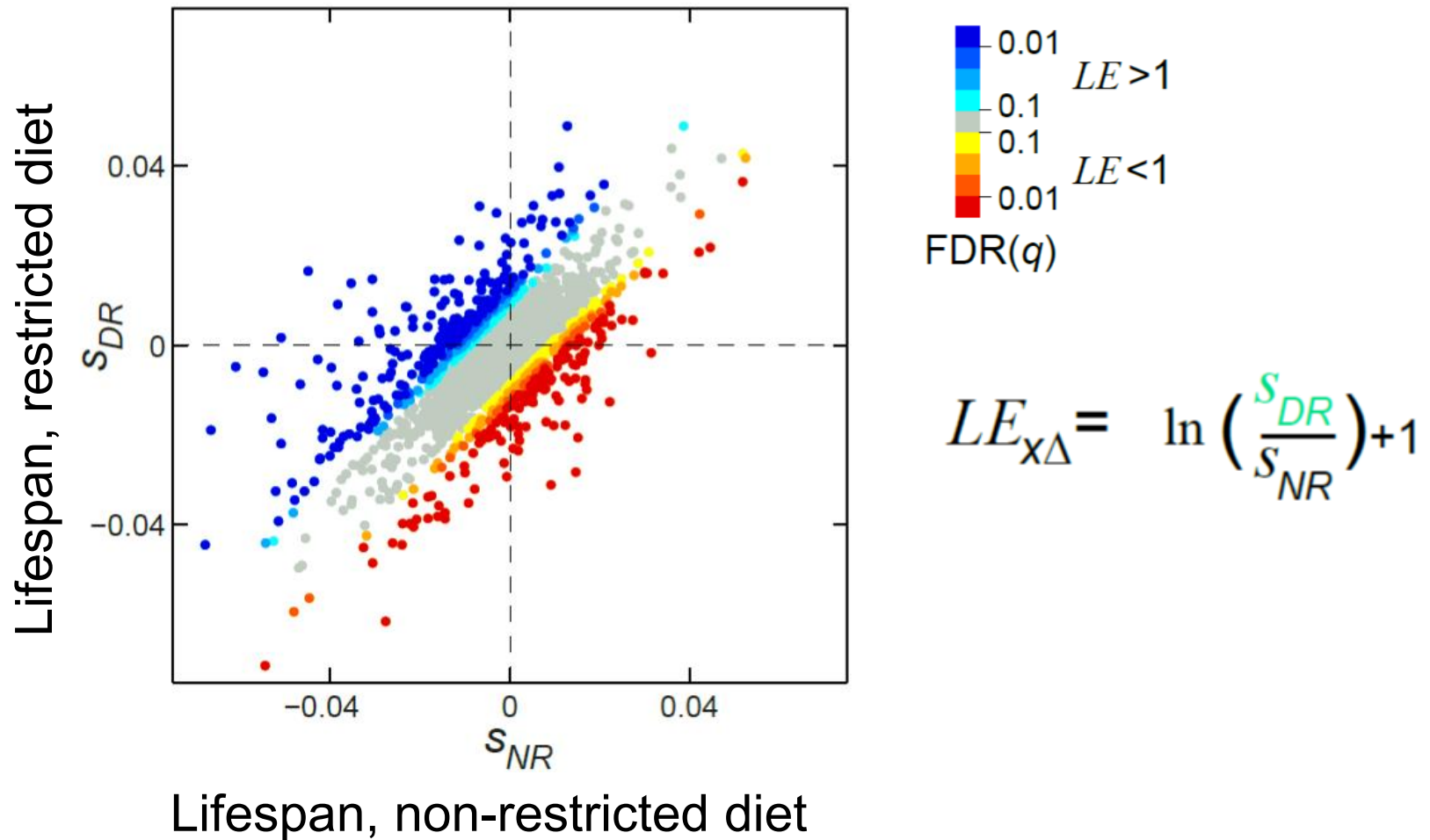
NR: Non restricted

DR: Dietary restricted

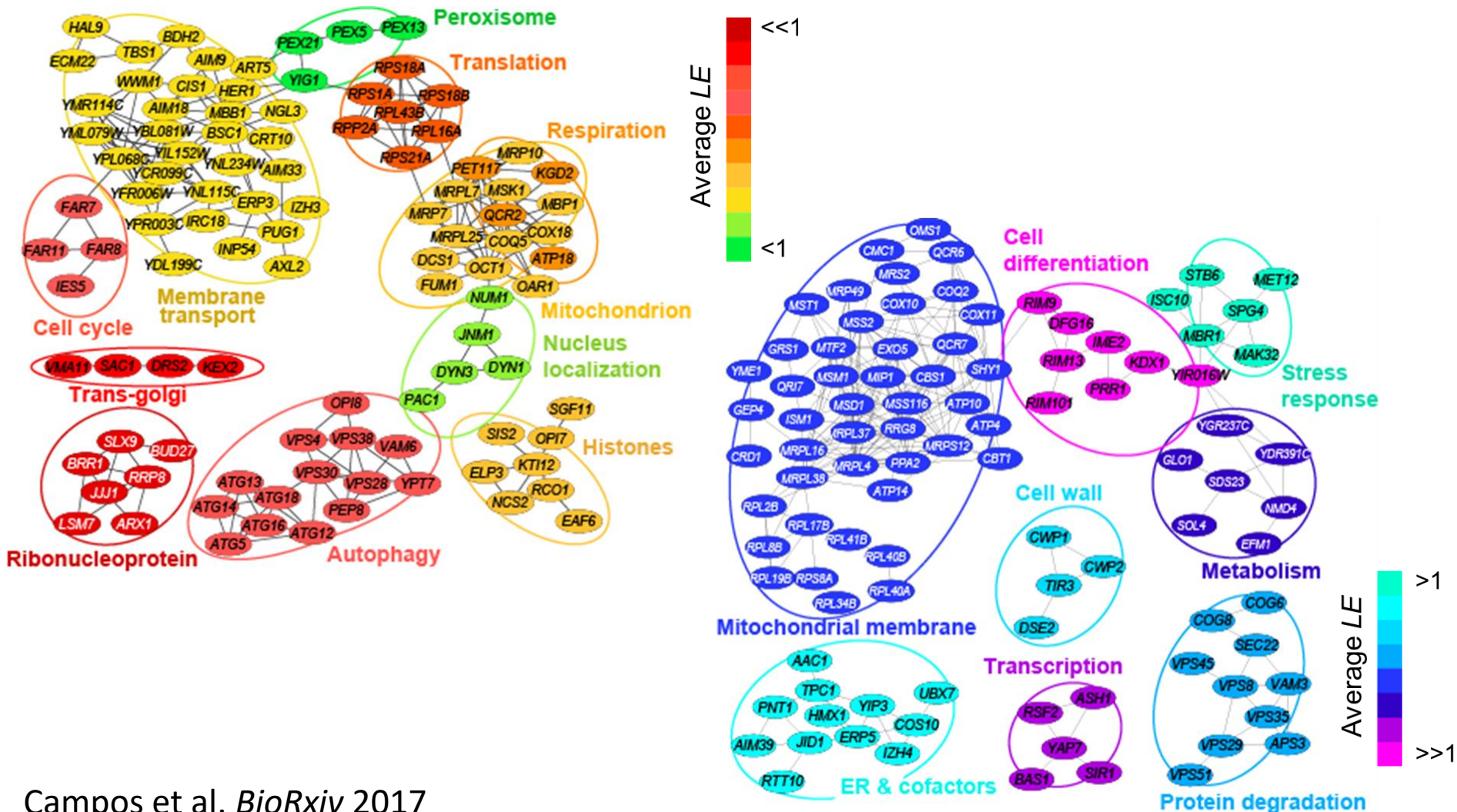
(Colman et al. *Science* 2014)

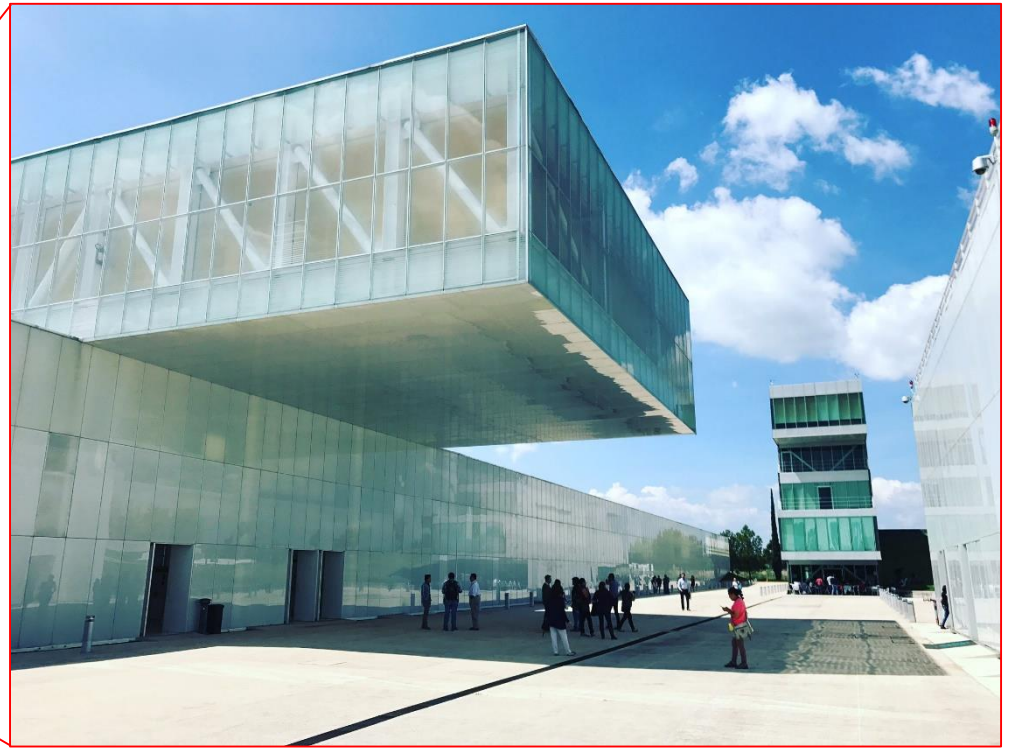


We screened for **gene-environment interactions** to describe mechanisms of longevity by dietary restriction



We have revealed the cellular mediators of longevity by dietary restriction





www.langebio.cinvestav.mx



LangebioMx @langebiomx



Collaborations:

Eugenio Mancera (CINVESTAV)

Sandy Johnson (UCSF)

Nevan Krogan (UCSF)

Noam Shores (Broad Inst.)

Funding: CONACYT México,
University of California MEXUS,
PSOC-Northwestern University,
Pew Foundation

alexander.deluna@cinvestav.mx



Genetic Systems Mx @deluna_lab