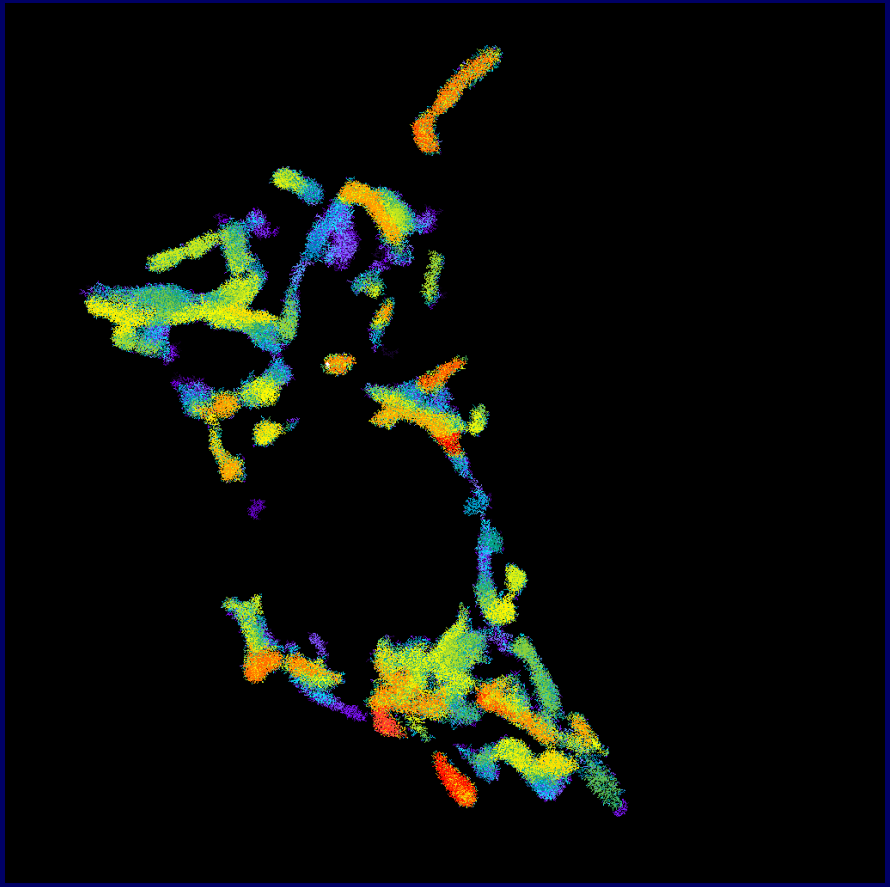
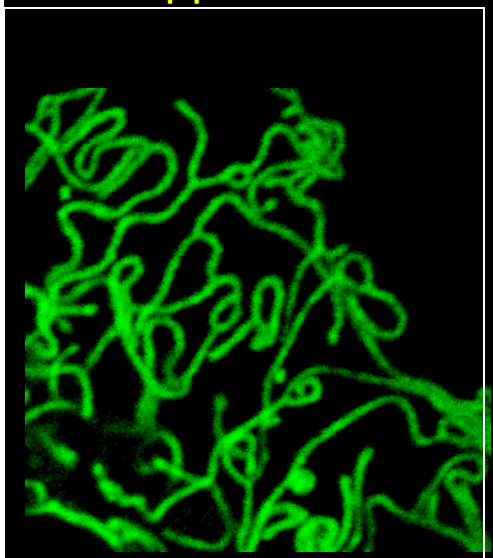
mtARC
The ARC with the highest (membrane) potential

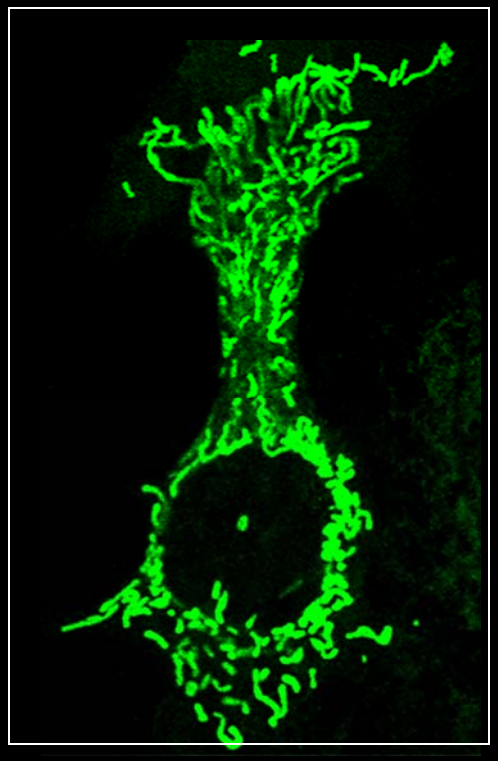


Orian Shirihai & Anthony Molina

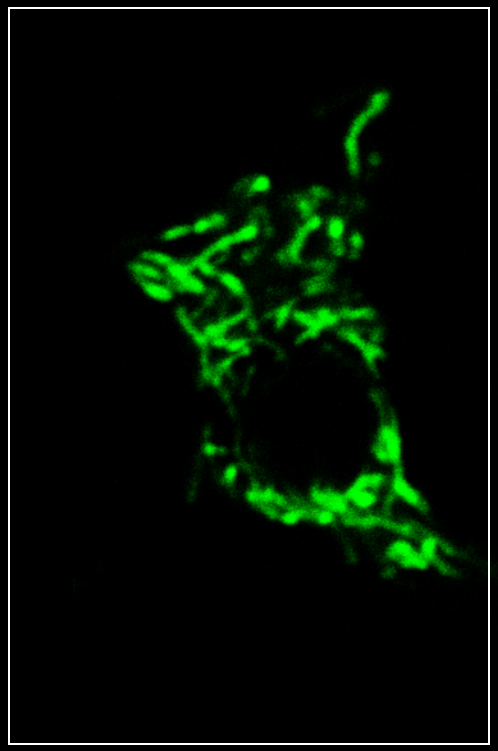
Cappellini



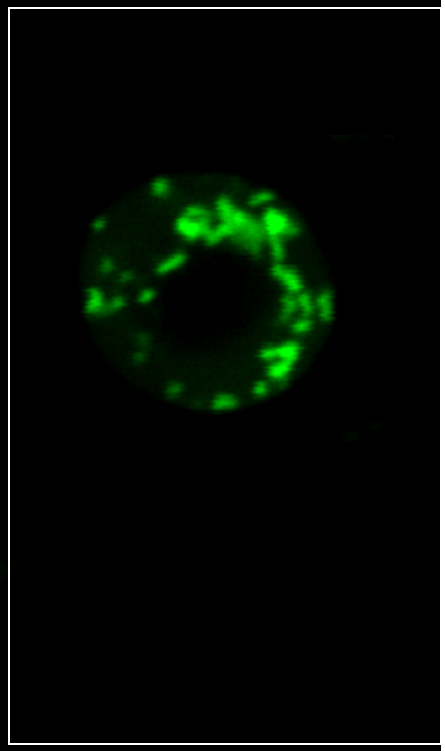
Fettuccine

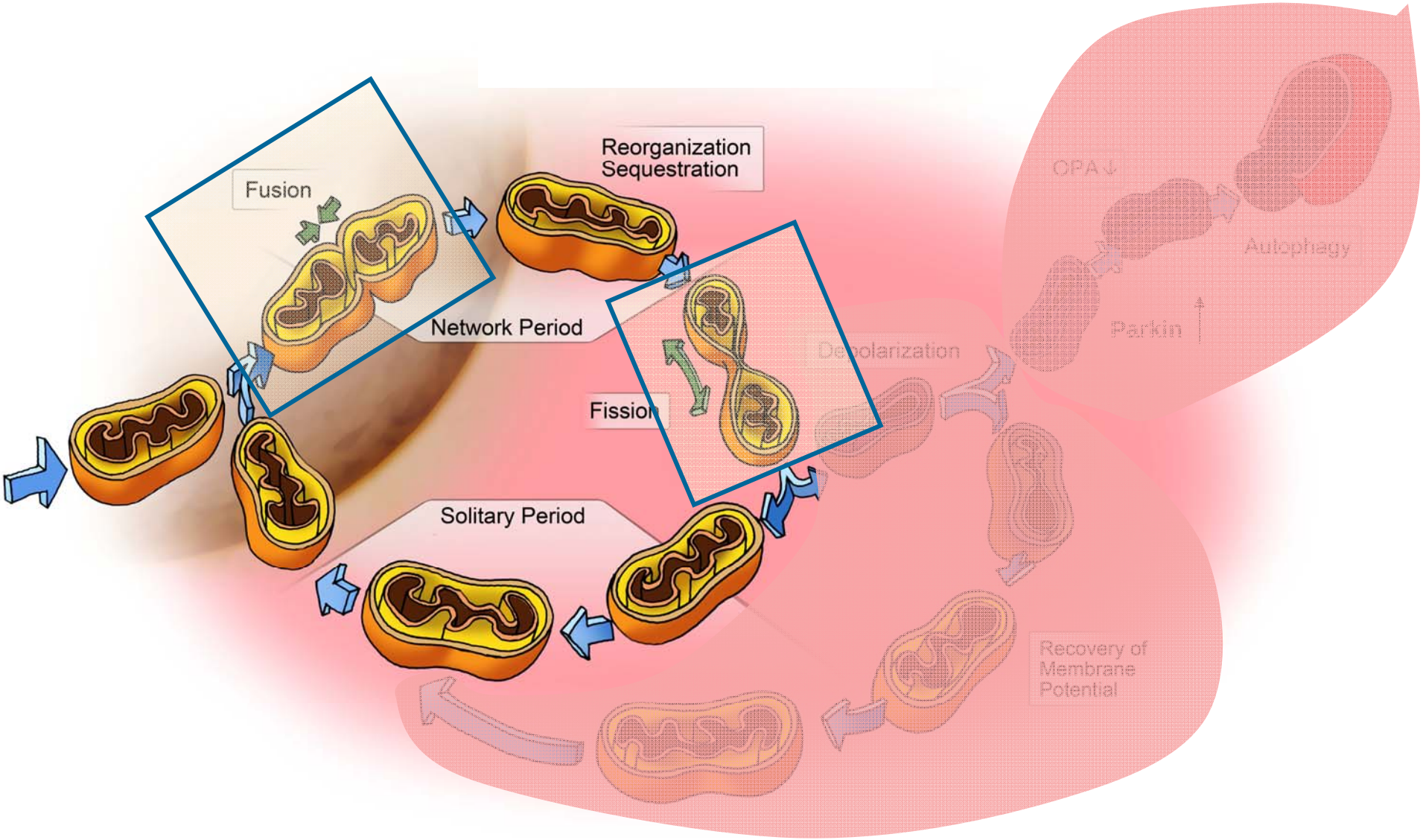


Cannelloni



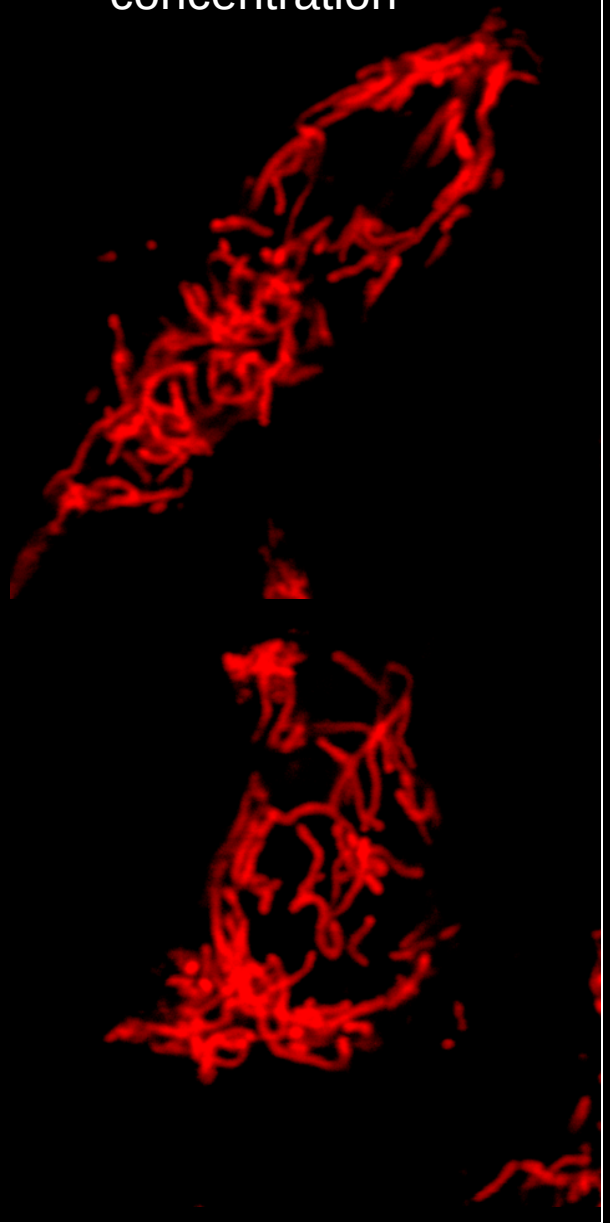
Tortelini



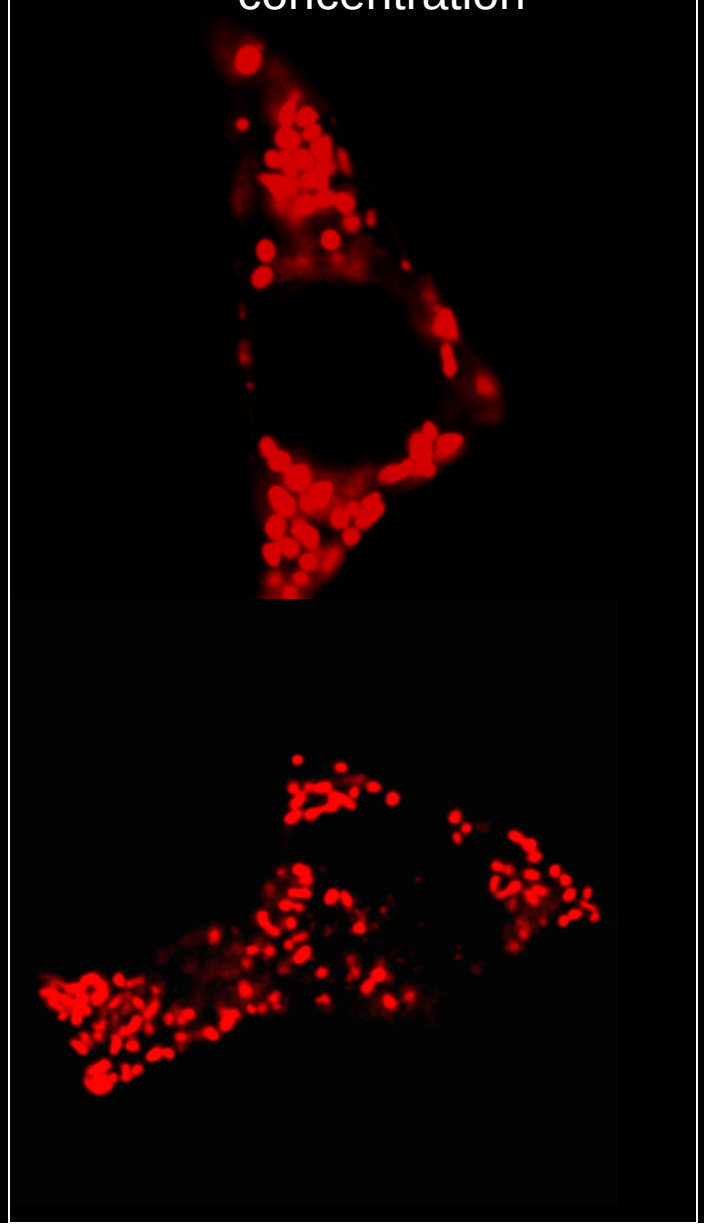

Fusion
Reorganization
Sequestration
Network Period
Fission
Solitary Period
OPA↓
Autophagy
Parkin
Depolarization
Recovery of
Membrane
Potential

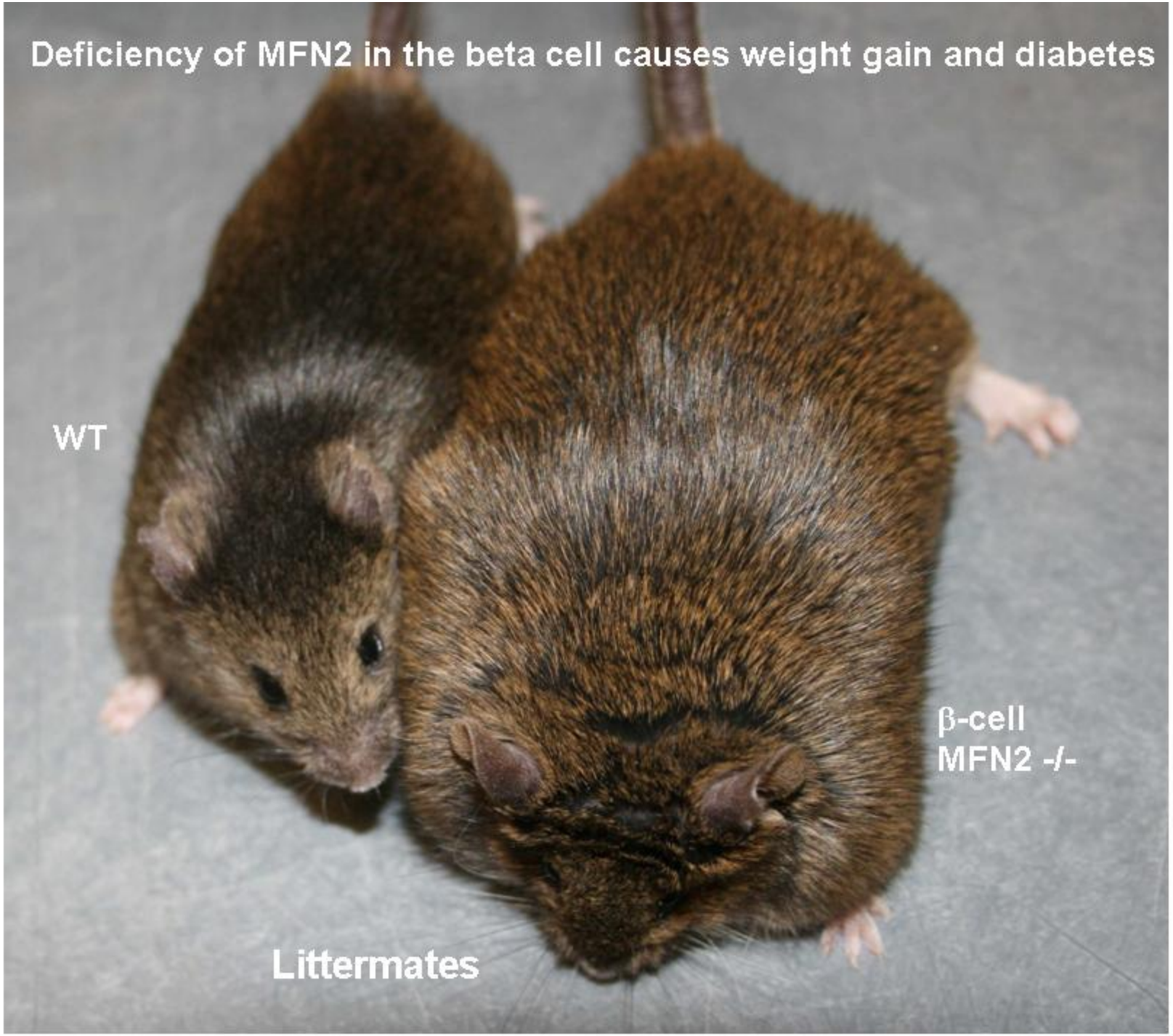
Nutrients Cause Changes in Mitochondrial Architecture

Low fatty acid concentration



Long term *High fatty acid* concentration




Deficiency of MFN2 in the beta cell causes weight gain and diabetes
WT
β-cell
MFN2 -/-
Littermates

Scientific interest of the mtARC

A. Mitochondrial Dynamics: Fusion and Fission

B. Mitochondrial bioenergetics: Oxidative phosphorylation

C. Mitochondrial turnover

D. Mitochondrial damage and repair mechanisms: ROS and anti-ROS

Activities of the mtARC

Monthly members and guest seminars

Monthly workshops on methodologies

Mt membrane potential
Oxygen consumption
Mt Isolation & purification

Project: Mitochondrial dynamics in the pathophysiology of disease

Kidney
Pancreatic islet
Vascular endothelial cell (3 labs)
Brain
Adipose tissue