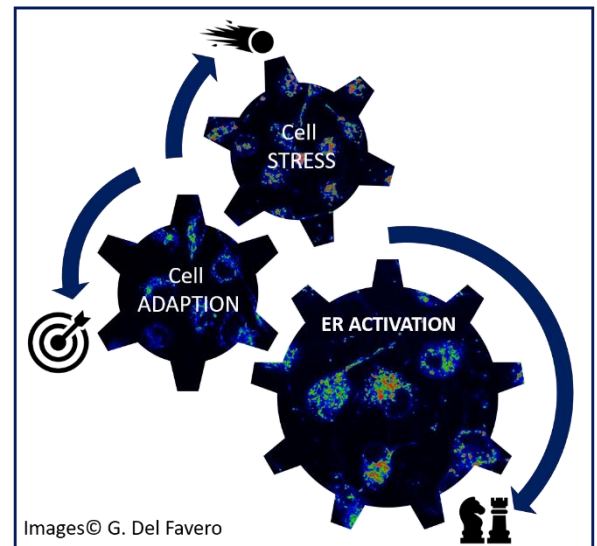


Master Thesis

Department of Food Chemistry and Toxicology
& Core Facility Multimodal Imaging

Shock absorbing capacity of the Endoplasmic Reticulum

Endoplasmic Reticulum (ER) plays a central role in regulating protein turnover and homeostasis. At the same time it serves as intracellular reservoir for Ca^{2+} and contributes to maintain intracellular ionic equilibrium. Upon need, ER can modify its shape within minutes and support cell response to external stressors, as for instance with the activation of the Unfolded Protein Response (UPR) pathway. In order to allow this fast response, timely structural remodeling must occur within the cell.



AIM of the THESIS. Fingerprint the morphometric adaptation potential of the ER upon stimulation. Investigate which elements of the cytoskeleton support ER response plasticity.

TECHNIQUES: Advanced cell culture, Immunofluorescence, Multiparametric Image analysis. Tools for cell pharmacological modulation.

Requirements:

- ✓ Interest for cell structural biology
- ✓ Interest for *in vitro* toxicology
- ✓ Creative thinking and team spirit

Start: as soon as possible

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