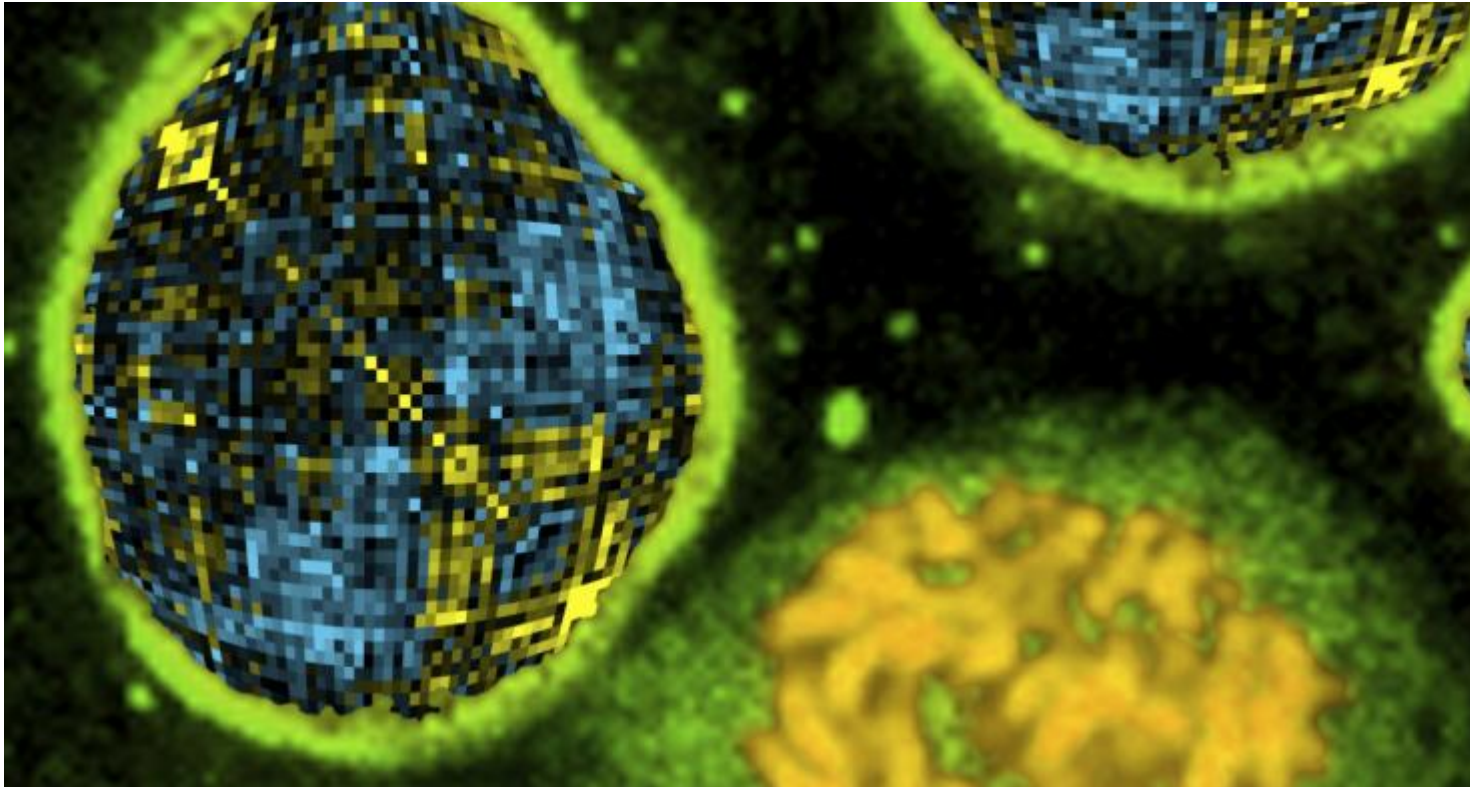


Welcome to the Kampmann Lab!



The Kampmann lab develops and uses innovative technologies to understand cellular and molecular mechanisms of human diseases, and to discover new therapeutic strategies. A major focus of our research are neurodegenerative and neuropsychiatric diseases.

We have pioneered a CRISPR-based functional genomics platform in human iPSC-derived neurons, glia and 3D assembloids, which enables genome-wide modifier screens of disease-relevant cell biology in patient-derived cells.

We use biochemistry, biophysics and cell biology to test mechanistic hypotheses generated by our functional genomics platform.

Major research questions are:

- How do different human cell types respond to stress?
- Which molecular mechanisms underlie the selective vulnerability of specific subtypes of neurons to stress and disease?
- What controls protein aggregation in neurons, and why is it toxic?
- How is dysfunction of different cellular processes (neuronal activity, protein homeostasis, autophagy, endolysosomal trafficking, mitochondria) coupled in neurodegeneration?
- What are the mechanisms by which disease-associated genetic variants cause brain diseases?
- What controls beneficial and toxic functions of astrocytes and microglia in disease?

Follow us on Twitter: @MartinUCSF ^[1] (PI Martin Kampmann) and @KampmannLab ^[2] (Lab members)

Source URL: <https://kampmannlab.ucsf.edu/welcome-kampmann-lab>

Links

[1] <https://twitter.com/MartinUCSF>

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