

CELL ELECTROPHYSIOLOGY

**BRAIN SLICE ELECTROPHYSIOLOGY**

IN VIVO BRAIN ELECTROPHYSIOLOGY

IN VIVO SC & DRG ELECTROPHYSIOLOGY

PATCH CLAMP

CALCIUM IMAGING

# Functional Endpoints For Drug Discovery





# Functional Readouts for Drug Discovery

## *Technology platforms*

- Patch clamp
- Fura-2 calcium imaging
- MEA (in development)

## *Model systems*

- Primary rat neuron cultures (CNS and DRG sensory neurons... and maybe enteric neurons 😊)
- Human iPSC-derived neurons

## *Assays / endpoints*

- Spontaneous calcium oscillations (Fura-2 imaging)
- Spontaneous action potentials (current clamp or MEA)
- Spontaneous EPSPs (current clamp)
- Spontaneous EPSCs or miniature EPSCs (voltage clamp)
- Evoked EPSCs by double neuron recording (voltage clamp)
- Voltage-gated ion channels (voltage clamp)
- Ligand-gated ion channels (voltage clamp or Fura-2 imaging)