Toward a naturalistic model of migraine aura. *Volodymyr Bogdanov, Brennan Lab.*

Aura is a neurological condition of temporary sensory deficit preceding migraine attack.

Migraine aura ~ cortical spreading depression (CSD).

Migraine aura can be induced by sensory stimulation.

Can CSD be facilitated by peripheral stimulation of sensory cortex?

![Baseline evoked potentials](image1)

![DC potential decline during CSD](image2)

![Intrinsic optical imaging of CSD](image3)

Under superfusion of cranial window with 20 mM K\(^+\) CSD can be induced by sensory stimulation in some experimental animals.

**Future directions:**

Measure intracortical [K\(^+\)] with ion sensitive electrodes during sensory induction of CSD.

Optogenetic vascular control (Myh-Chr2 mice) to evaluate effects on CSD induction.

Record CSD induction at cellular resolution with two photon microscopy.

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