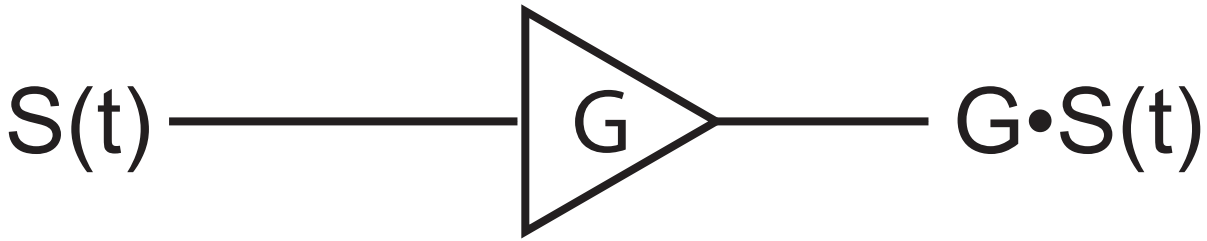
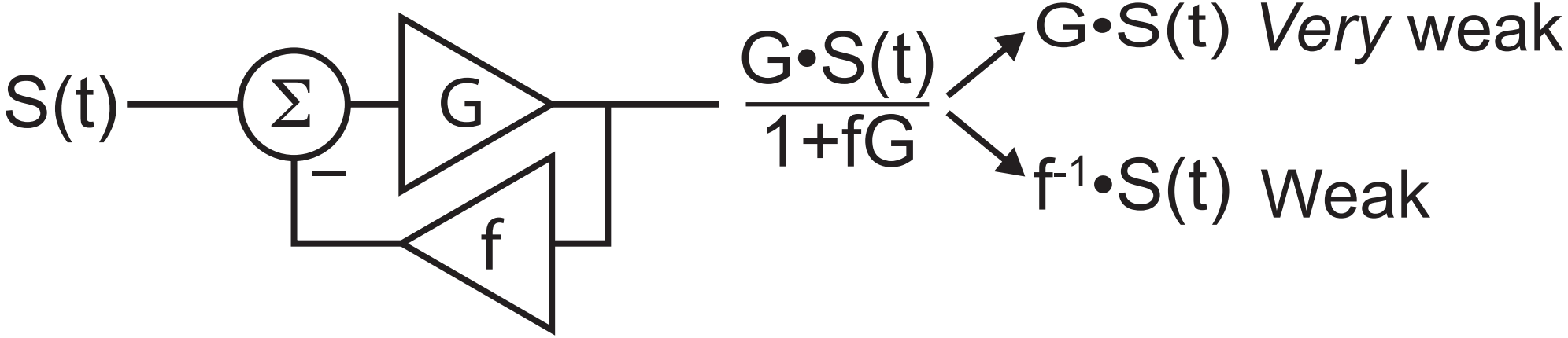
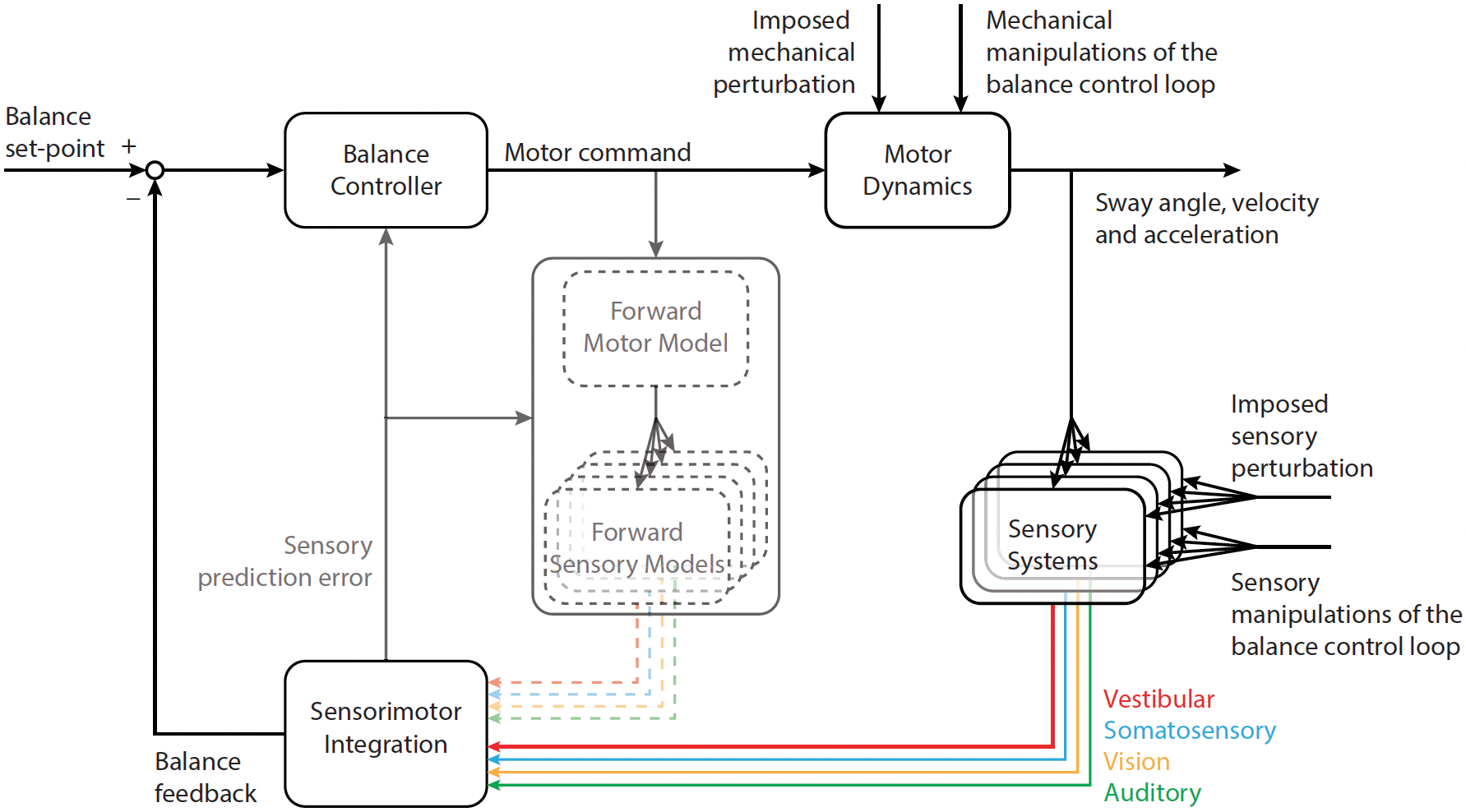
Feedback and loops!





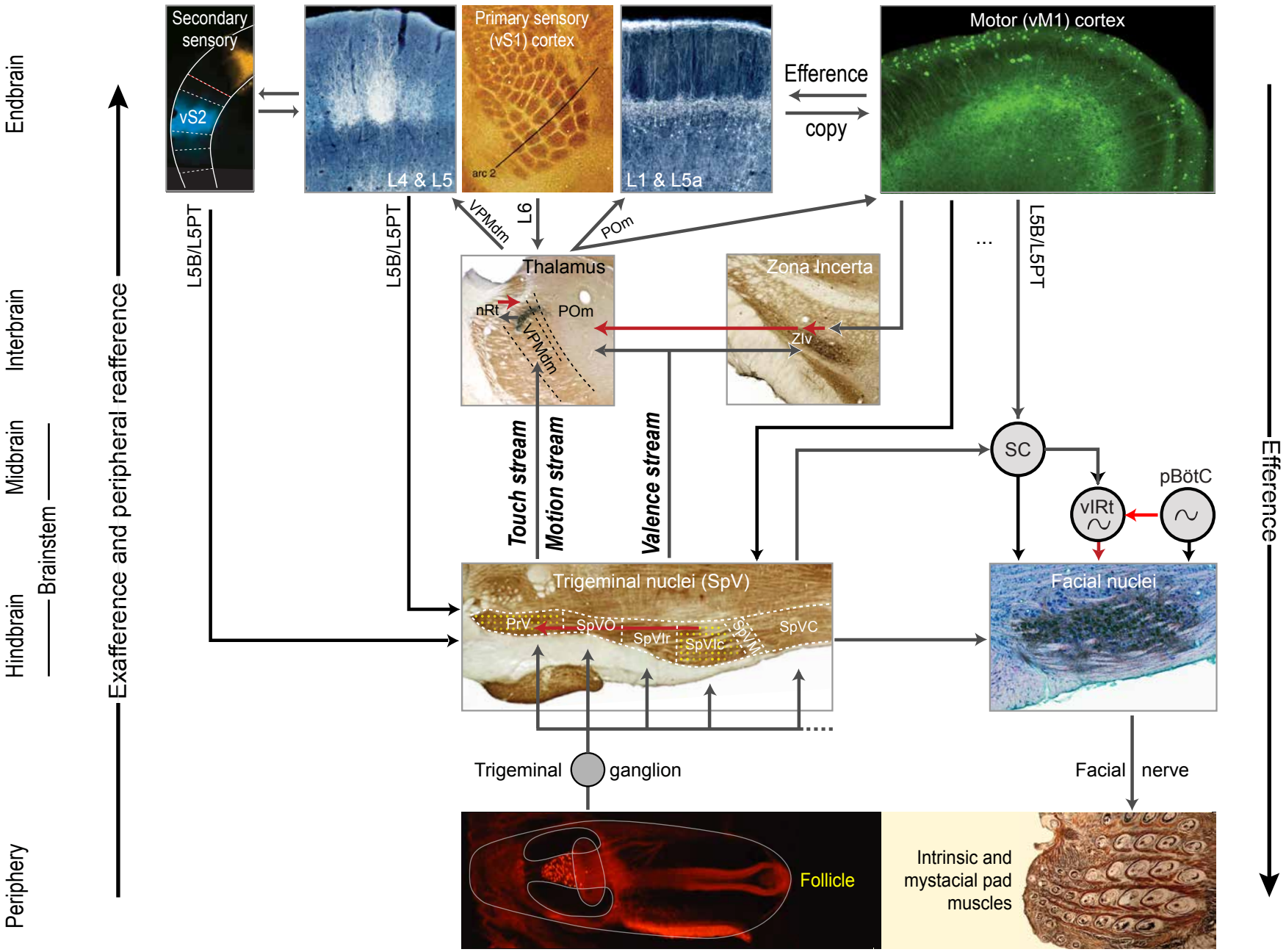
Balance: Classic feedback problem



Yet experimental reality is vague in terms of anatomical targets

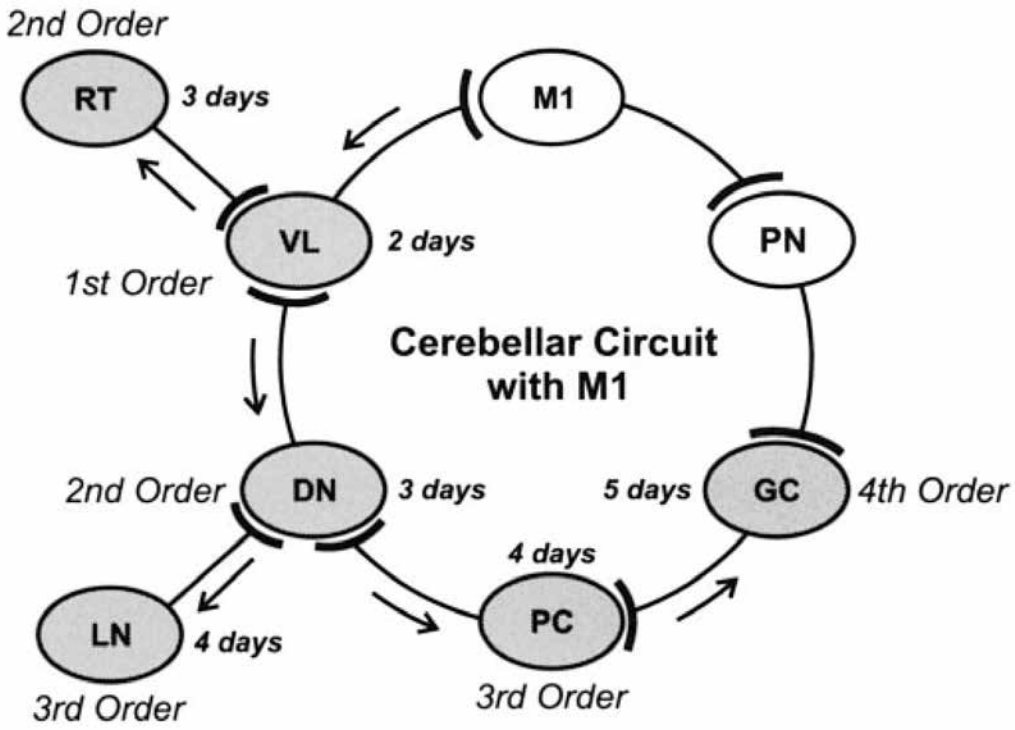
Rasman, Forbes, Tisserand & Blouin (Frontiers 2018)

Signal flow in nested loops of the vibrissa system

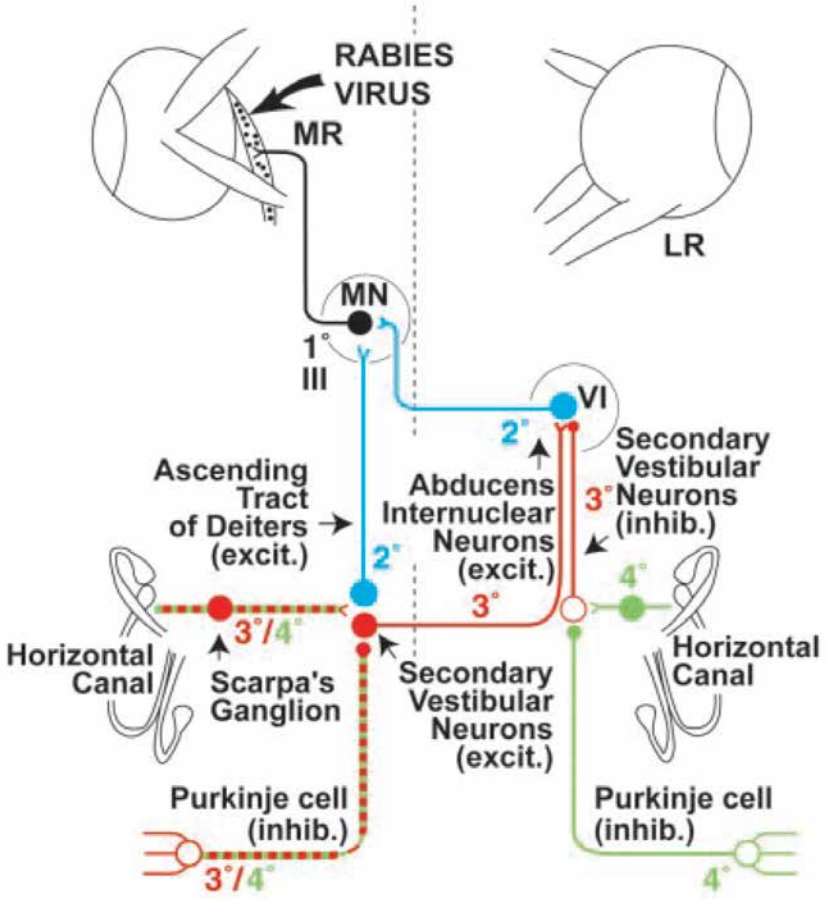


Kleinfeld, Berg & O'Connor (Somat Mot Res 1999) ... Golomb, Moore, Fassihi, Takatoh, Prevosto, Wang & Kleinfeld (Neuron 2022)

Transsynaptic labeling to reveal loops

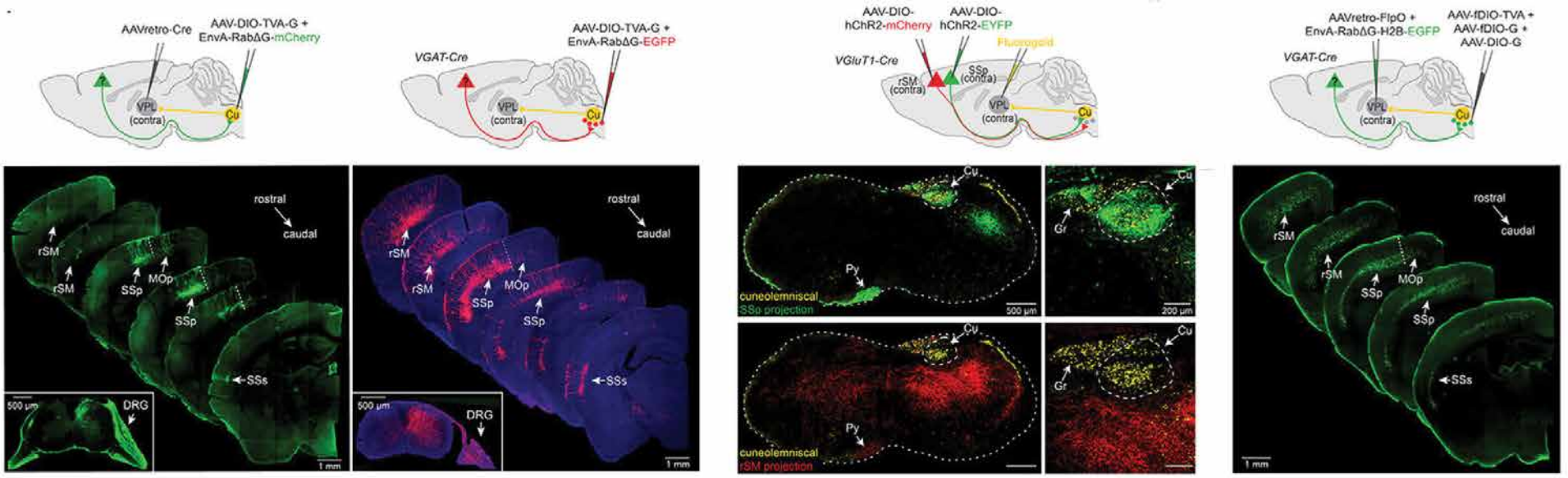


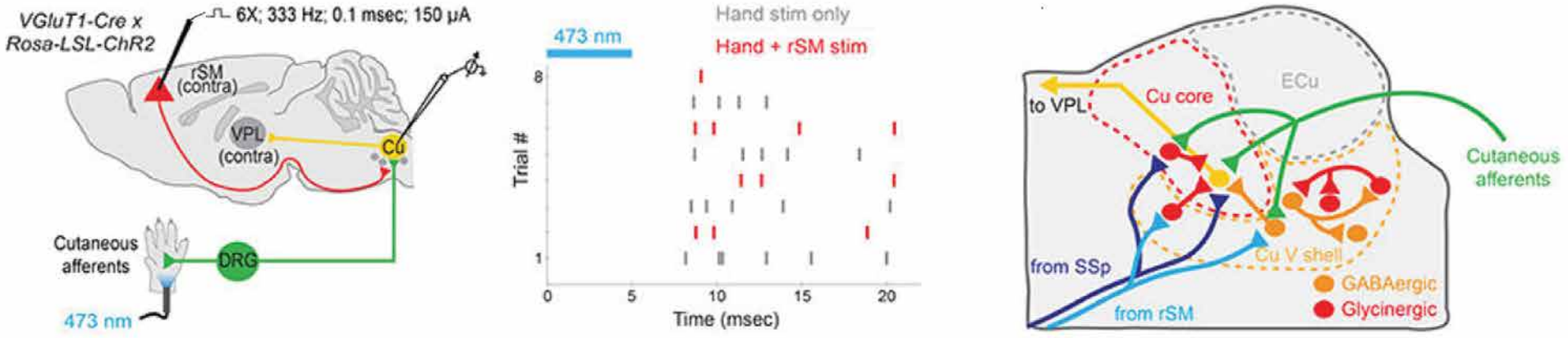
Cerebellar loops with motor cortex and prefrontal cortex of a nonhuman primate (Kelly & Strick , J Neurosci 2003)



Mapping the oculomotor system: The power of transneuronal labelling with rabies virus (Graf, Gerrits, Yatim-Dhiba &Ugolini, Euro J Neursci 2002)

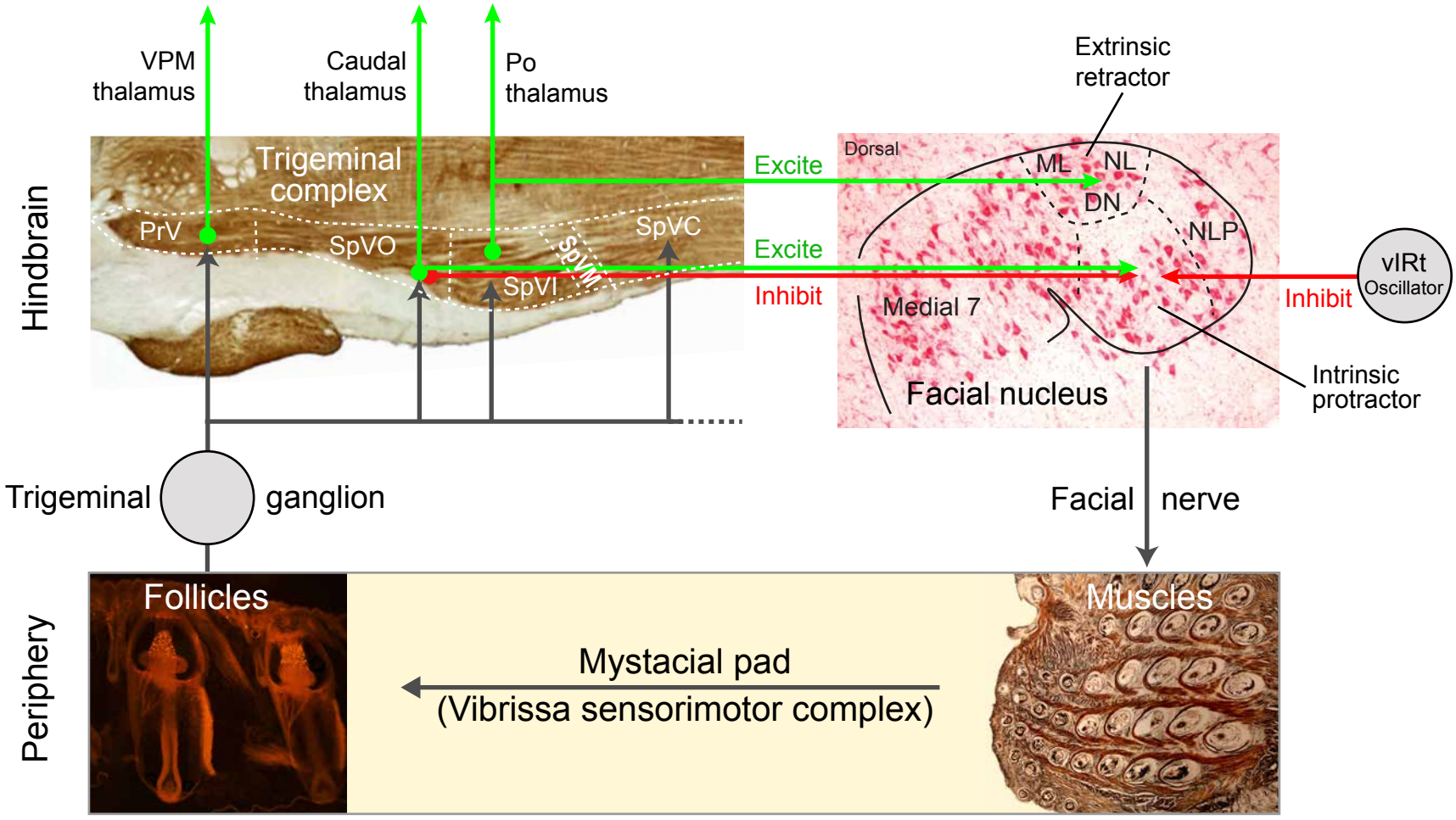
Discrete transsynaptic labeling to reveal loops





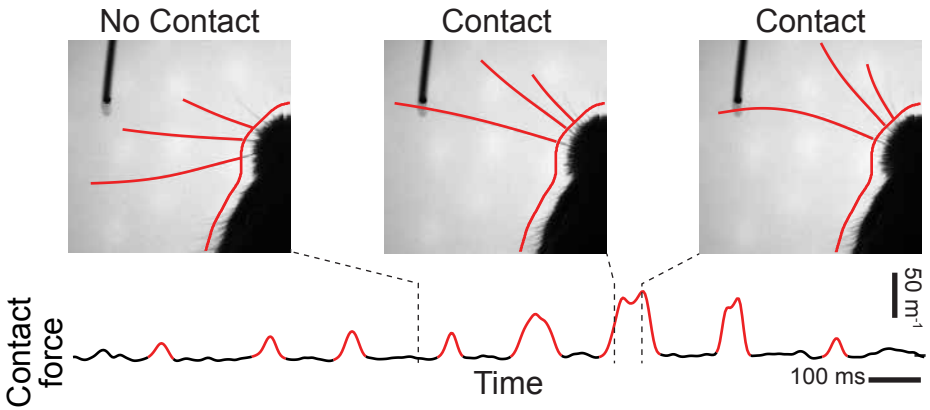
Modulation of tactile feedback for the execution of dexterous movement
(Conner, Bohannon, Igarashi, Taniguchi, Baltar & Azim, Science 2021)

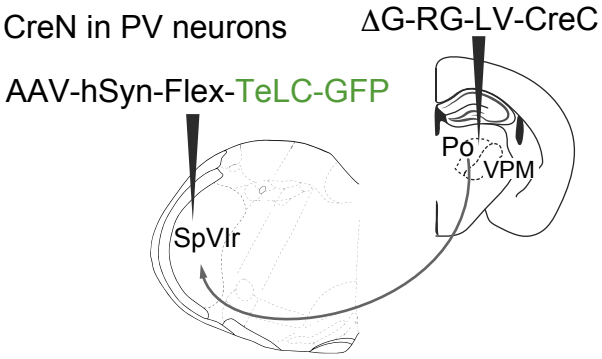
Low-level accessible feedback paths in the vibrissa sensorimotor complex

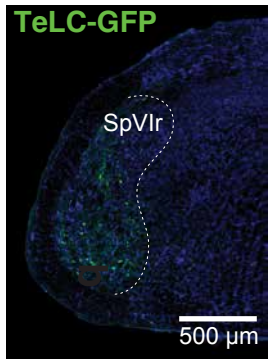


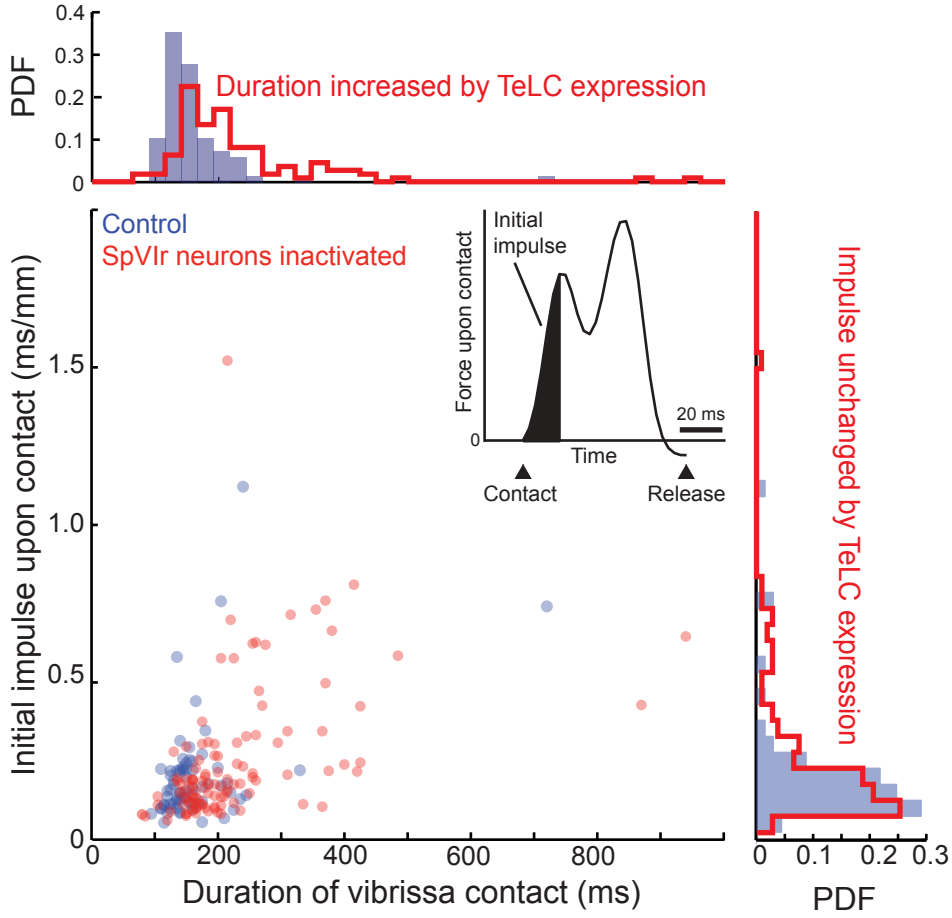
Bellavance*, Takatoh*, Lu, Demers, Kleinfeld, Wang & Deschênes (Neuron 2017)

Effect of block of a low-level feedback path in the vibrissa sensorimotor complex



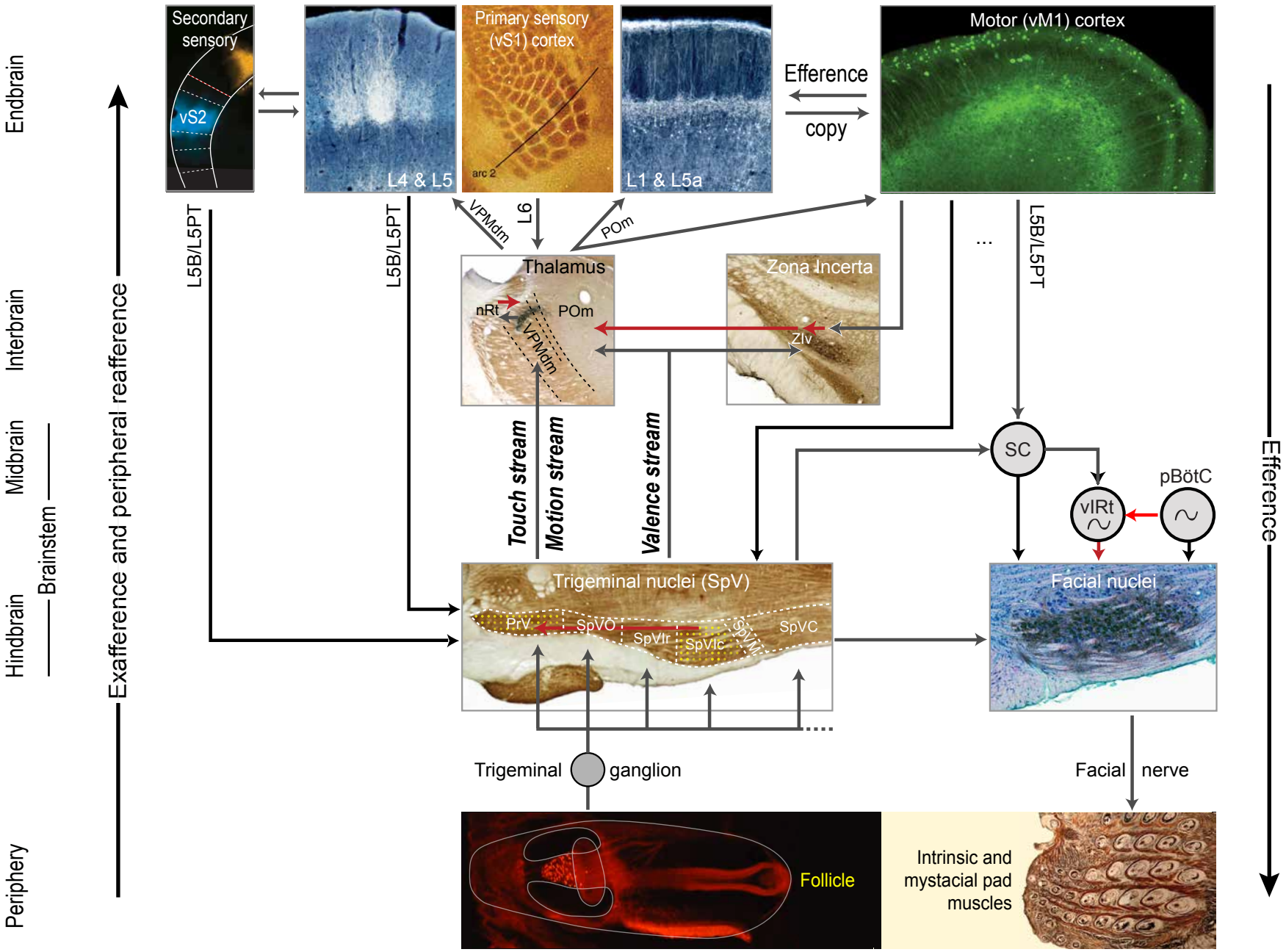






Bellavance*, Takatoh*, Lu, Demers, Kleinfeld, Wang & Deschênes (Neuron 2017)

Signal flow in nested loops of the vibrissa system



Kleinfeld, Berg & O'Connor (Somat Mot Res 1999) ... Golomb, Moore, Fassihi, Takatoh, Prevosto, Wang & Kleinfeld (Neuron 2022)