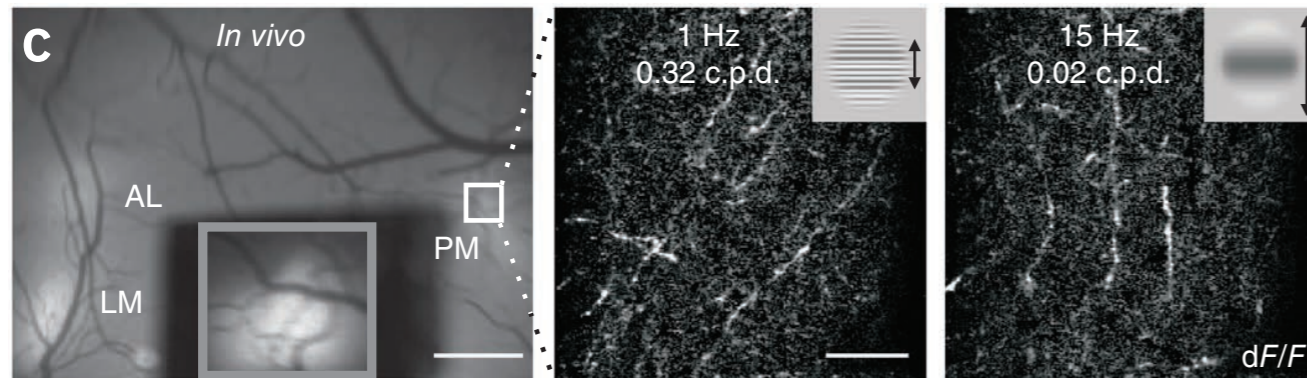


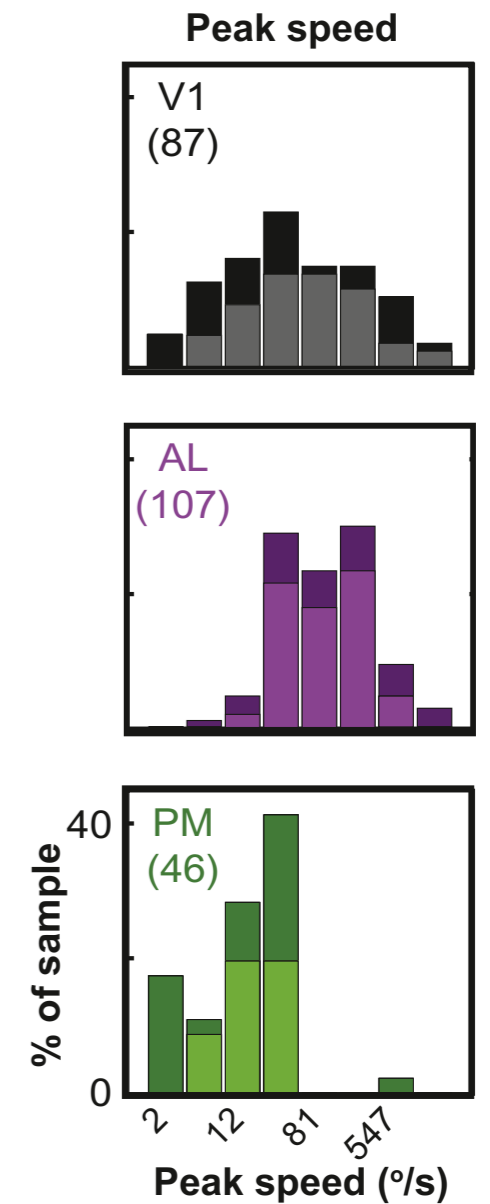
# Cortico-cortical projections in mouse visual cortex are functionally target specific

Lindsey L Glickfeld, Mark L Andermann, Vincent Bonin & R Clay Reid  
Nature Neuroscience, January 6, 2013

# Neurons in V1 are functionally diverse but higher visual areas are specialized

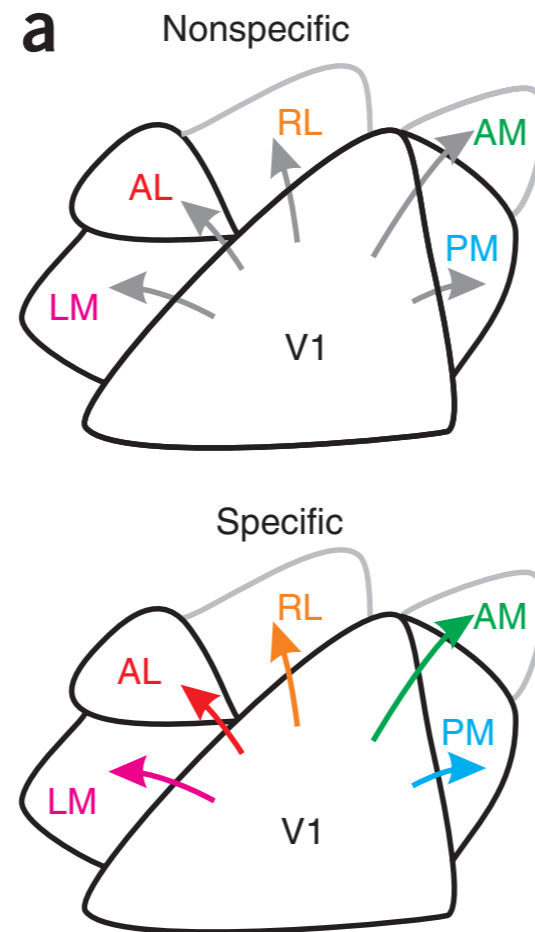


Glickfeld et al. 2013



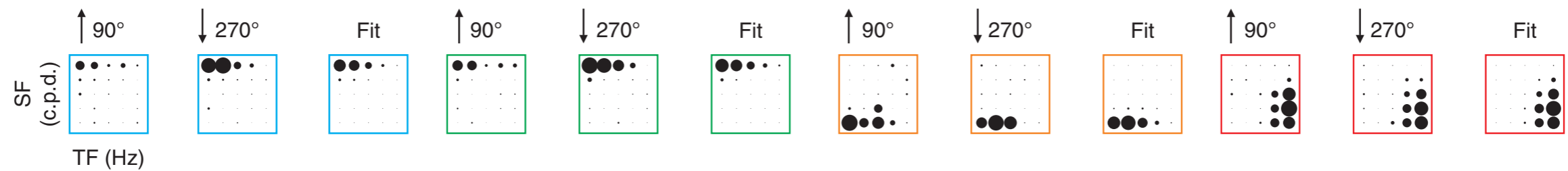
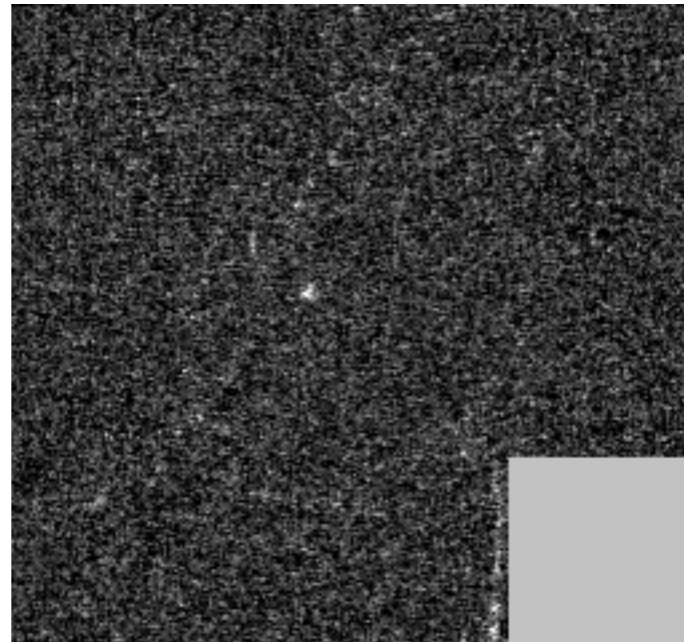
Andermann et al. 2011

# Functional specificity of axonal projections from V1 to higher visual areas

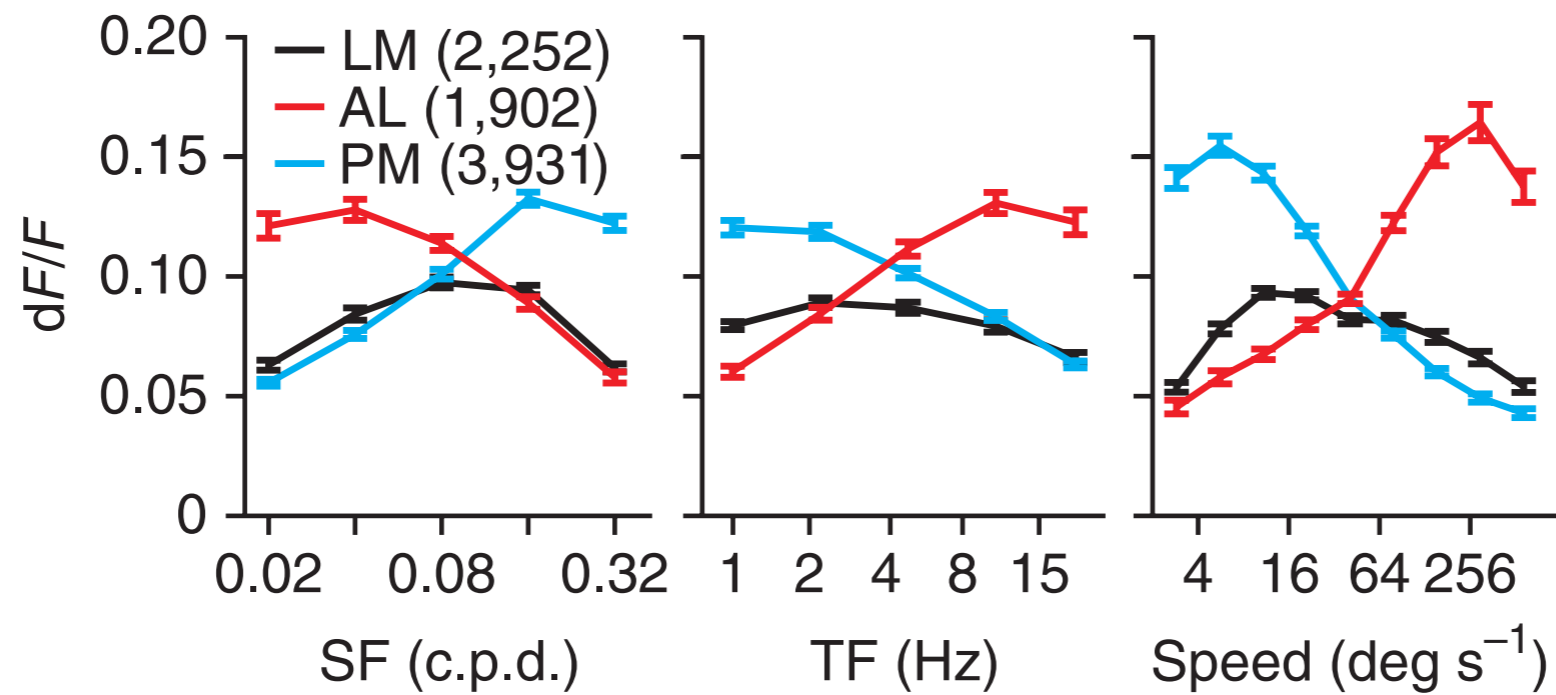


- Are projections from V1 to LM, AL and PM functionally distinct?
- If so, what are the mechanisms underlying such specificity?

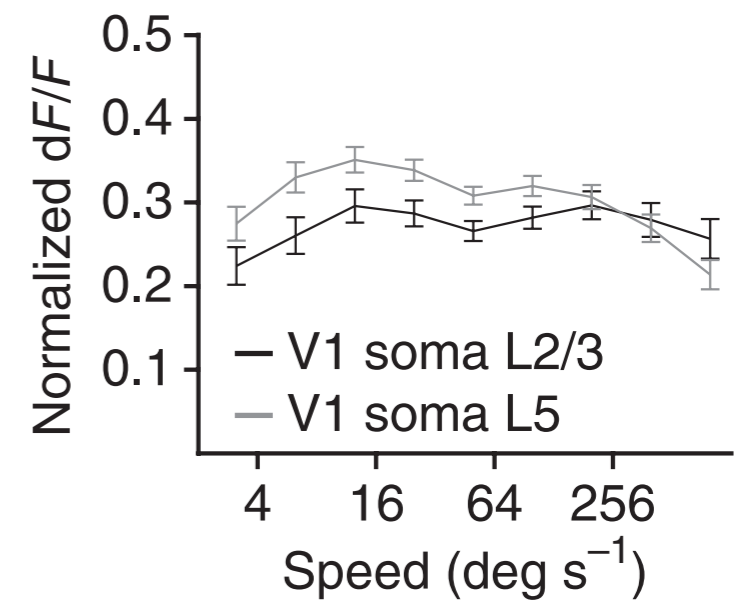
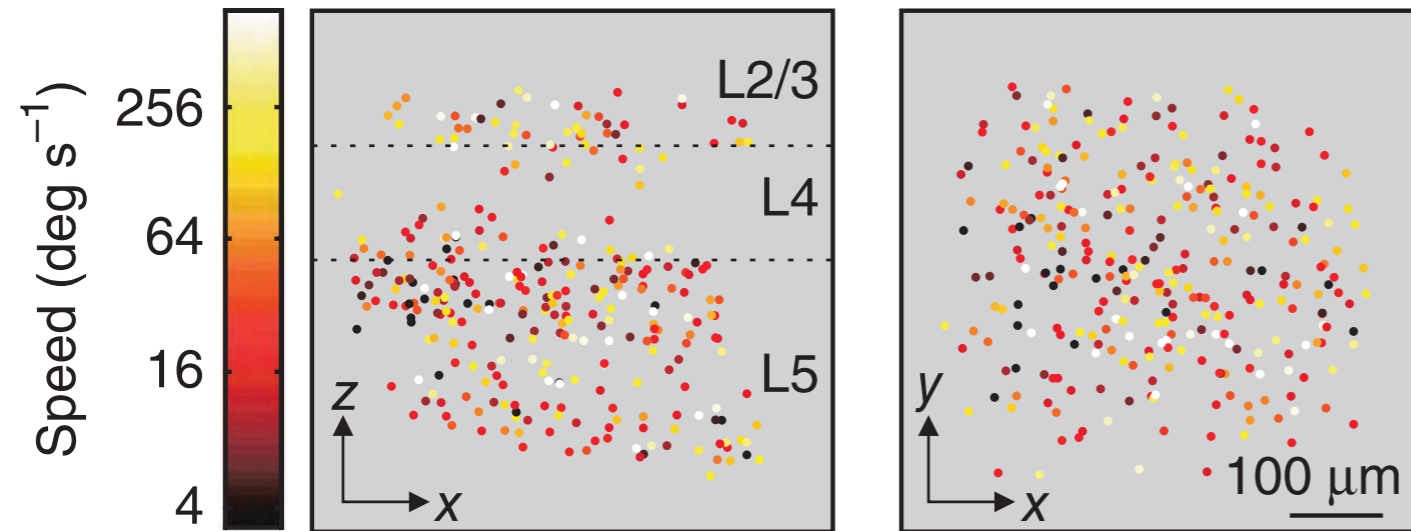
# Functional imaging of boutons in higher visual areas



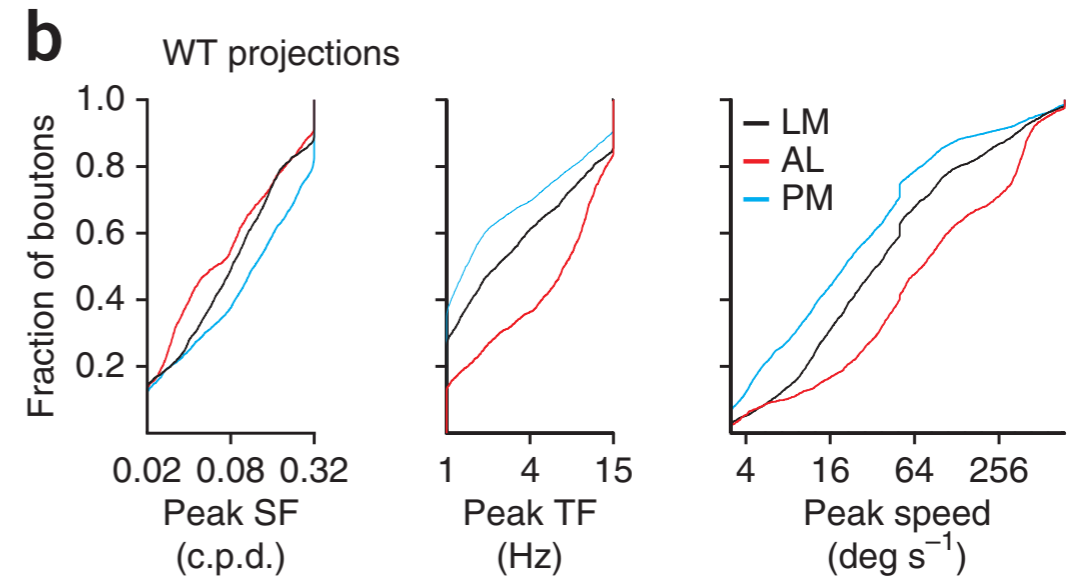
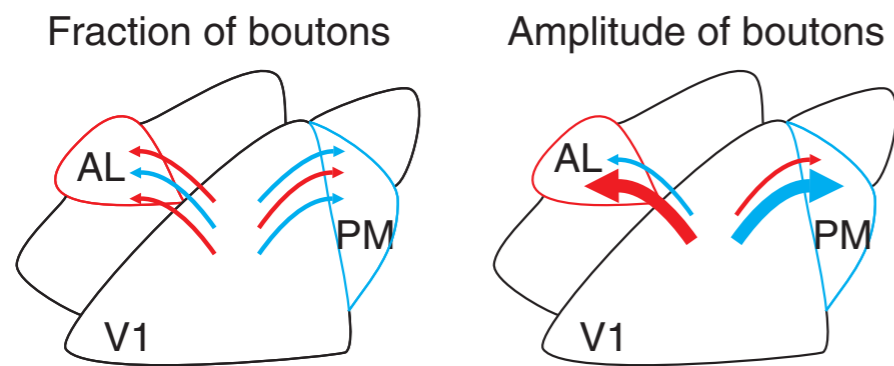
# V1 axons projecting to LM, AL and PM are functionally distinct



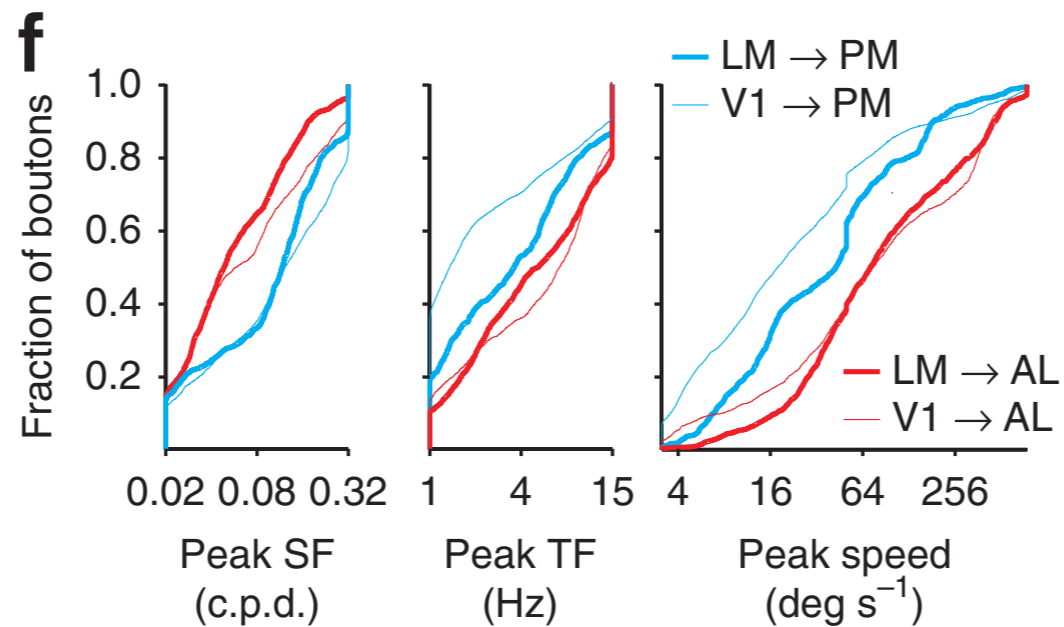
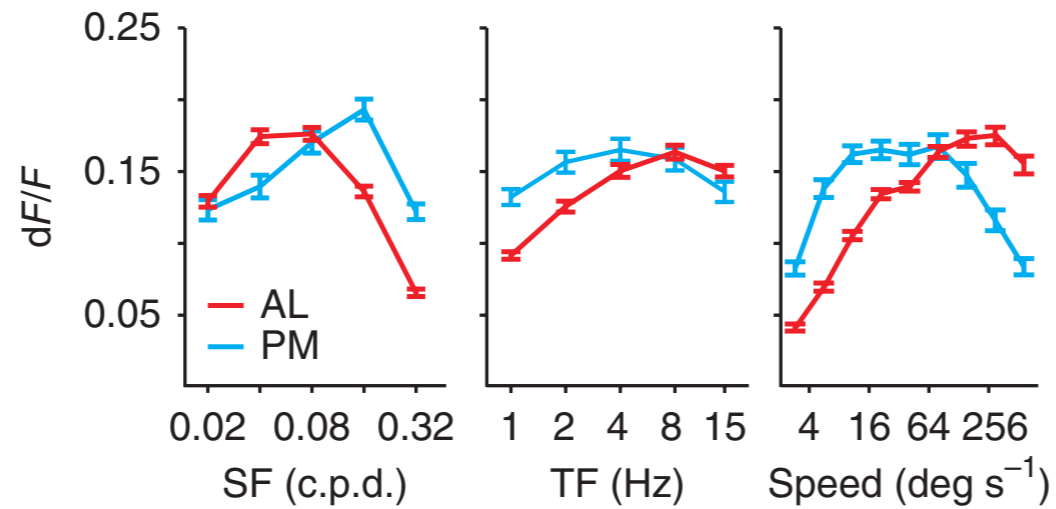
# Lack of functional organization for frequency preference in V1



# Bias in the number of boutons with target-specific preferences



# Functional specificity of LM projections to AL and PM





# Summary

- Projections from V1 to LM, AL and PM are functionally distinct, in terms of spatial and temporal frequency tuning.
- Response properties of individual presynaptic boutons match the response of neurons in each target area.
- Suggest that functionally specific connections are important in determining receptive field preferences of neurons in higher visual areas.

# Bias in the amplitude of responses at different speeds

