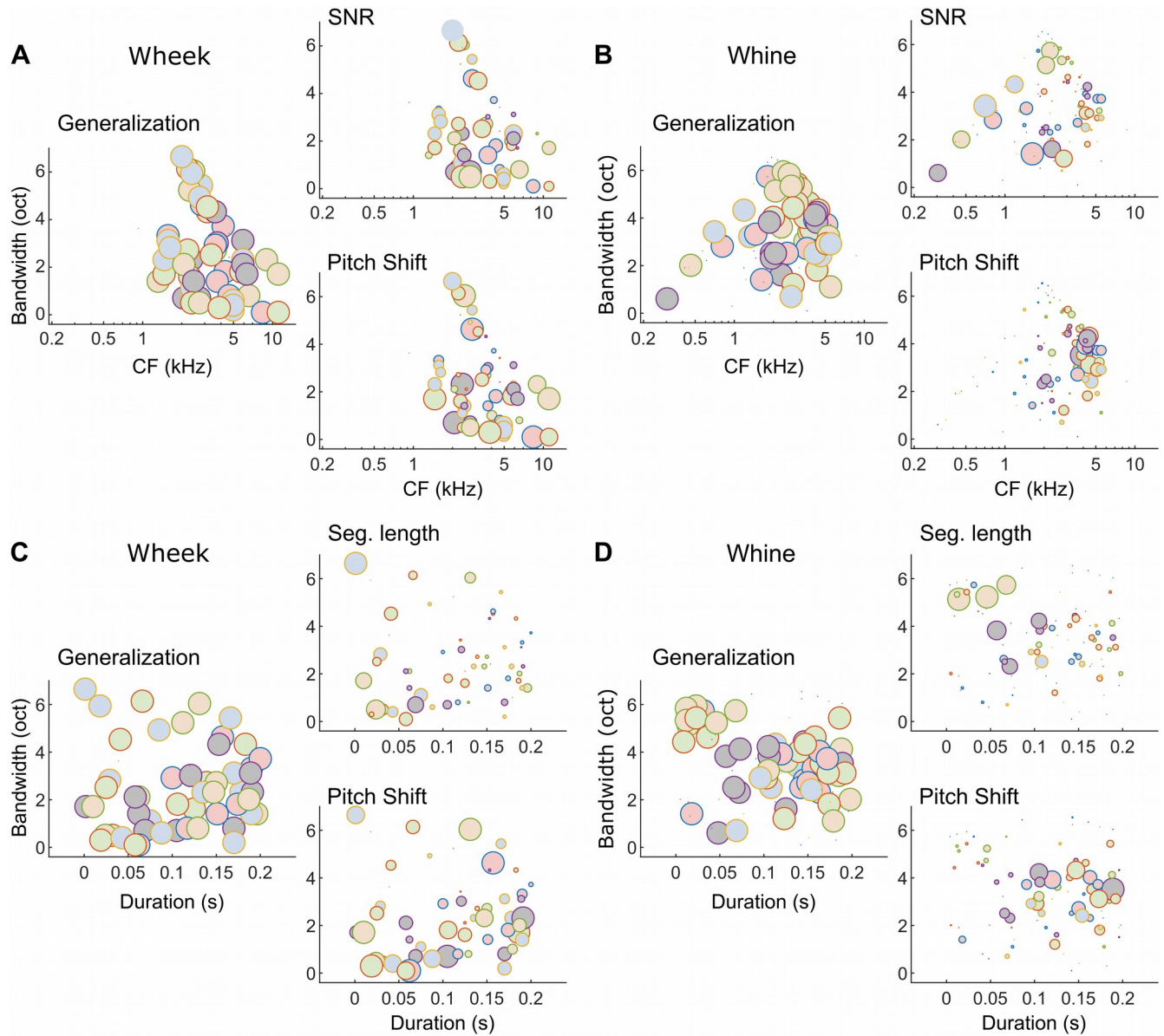


## Vocalization categorization behavior explained by a feature-based auditory categorization model

Manaswini Kar, Marianny Pernia, Kayla Williams, Satyabrata Parida, Nathan A. Schneider, Madelyn McAndrew, Isha Kumbam, Srivatsun Sadagopan

**Figure 12 – figure supplement 1**



**Figure 12 – figure supplement 1: Different subsets of MIFs are flexibly recruited to solve categorization tasks for different manipulations (wheels vs. whines). (A and B)** We estimated the relative detection rate (i.e., the difference between the detection rate of a given MIF for all target and all distractor calls) of all MIFs (discs) for each behavioral paradigm (e.g., SNR). Colors denote different instantiations of the MIFs. Disc diameter is monotonically proportional to the relative detection rate, using a power-law relationship (fourth power) to highlight the most robust features. While MIFs of all center frequencies (CFs) and bandwidths were uniformly recruited for generalizing calls of each call type, MIFs with lower CFs were preferentially selected for SNR conditions, likely because high-

frequency features were masked by white noise. In contrast, MIFs with high CF were preferred by the model to solve the F0-shift task. These differences were especially apparent for whine calls. **(C and D)** MIFs of all durations and bandwidths were uniformly recruited for generalizing calls of each call type. In contrast, shorter duration MIFs were preferred for segment-length conditions whereas longer-duration MIFs were preferentially recruited for F0-shift conditions.