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Research Interests

During neural development, many cells navigate extensively to their final destinations where they form precise connections with their neighbors. We are interested
Specifically, we are focusing on the cues that guide and pattern motor neurons and neural crest cells.

Motor neurons, born in the forming central nervous system, extend their axons to innervate specific target muscles. Our previous studies indicated that chick motor
showed that distinct subsets of motor neurons that express EphA4 RTK respond differently to ephrin-A5. Our research focuses on unraveling the underlying mecha
interacts directly with EphA4, to the distinct behaviors of EphA4-positive motor neurons. Using shRNA targeted specifically against c-ephexin, we showed that c-

Neural crest cells, a stem cell-like population, emanate from the dorsal neural tube and migrate along stereotypical pathways to their target regions to form various c
cells. We are interested in how this stem cell population generates such a diverse array of derivatives. Furthermore, we are analyzing the molecules that guide neura
define the cues that promote or inhibit cell migration and determine how they work at a mechanistic level.

Together, these studies will yield important insights about the positive and negative cues that generate precise patterns of cellular architecture during neural develop

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