New Mexico State University

Biomedical Research Seminar Series

Speaker Announcement

Friday, Mar. 31, 2017, 3:30 pm
Domenici Hall, Rm 109
(Refreshments served at 3:00)

Cecilia Moens, PhD,

Developmental Biology,
Fred Hutchinson Cancer
Research Institute

Turning heads: the development of cranial motor nerves in the zebrafish

The vertebrate brain contains several topographical maps – neuronal representations of the outside world. Most of these maps form during development through the use of spatial cues that guide axons in a point-to-point mapping process. We are studying the formation of an understudied topographical map – the one by which vagus motor neurons in the hindbrain find their appropriate pharyngeal arch targets in the head periphery. The pharyngeal arches are the segmental structures in all vertebrate embryos that in humans give rise to the pharynx and larynx and the great vessels of the heart. Using neuronal tracing and single-cell transplantation, we have found that topographic mapping is determined by the timing with which a vagus motor neuron makes its axon. Thus we have identified a novel temporal mechanism for topographical map formation. We are currently using CRISPR technology and high-resolution timelapse imaging to identify the regulators of axogenesis timing within the Vagus motor nucleus.

The BMRS series is supported by the Office of the Provost, the College of Arts and Sciences, the Departments of Chemistry & Biochemistry and Biology, and the NM-INBRE, RISE, MARC, and HHMI programs. The full semester schedule can be found at http://events.research.nmsu.edu

For more information or to meet with the speaker please contact Shelley Lusetti at slusetti@nmsu.edu

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