



Life Sciences Seminar

Neuronal subtype specification in the developing nervous system by a shared temporal TF sequence

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Host: Lora Sweeney

The molecular mechanisms that ensure the reproducible specification of neuronal diversity in the vertebrate nervous system are incompletely understood. My recent work revealed the existence of a temporal patterning program, consisting of cohorts of transcription factors that are expressed in neurons generated at successive developmental timepoints in large regions of the developing nervous system. This program is superimposed on the well-known spatial patterning programs that subdivide the vertebrate nervous system into topographical territories and direct the specification of distinct neuronal classes at characteristic positions. Focussing on the developing spinal cord, I will provide evidence that this temporal program is essential and works in combination with the programs that control spatial patterning to partition neurons in the early spinal cord into distinct molecular and functional identities. This includes long-range projection neurons of the anterolateral system, which relay sensory information from the spinal cord to different areas of the brain and the specification of distinct columnar identities of motor neurons.

Thursday, January 18, 2024 01:00pm - 02:00pm

Moonstone Bldg / Ground floor / Seminar Room F



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