

Molecular Characterization of Spinal Motor Circuits

February 14

Tuesday, 12:30 pm

**Billings Building—Rosedale Room
and Zoom**

SPEAKER:



Samuel L. Pfaff, Ph.D.

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Host: Yutaka Yoshida, Ph.D.

For more information contact

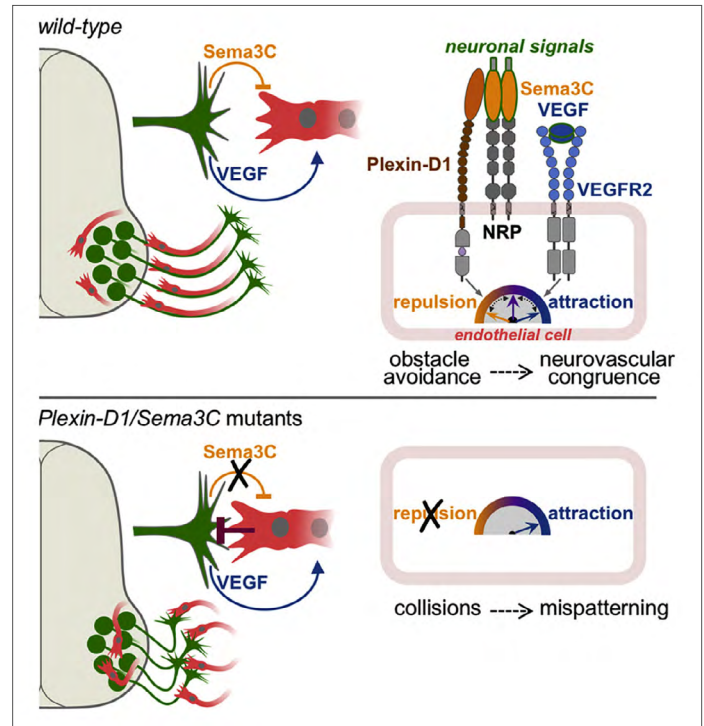
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Abstract

The spinal cord contains neural circuitry for controlling movement, but the developmental processes and cellular networks that regulate the intricate patterns of muscle activation that underlie motor behaviors are poorly understood. Sam Pfaff is known for characterizing one of the earliest examples of molecular diversification among neuronal subtypes through his analyses of

the combinatorial activity of the LIM homeodomain gene family in spinal neurons. In this talk Sam will describe his lab's recent genetic studies of spinal neurons during development, disease, and repair from injury.



Publications

1. Martins, L.F., Brambilla, I., Motta, A., De Pretis, S., Bhat, G., Badaloni, A., Malpighi, C., Amin, N.D., Imai, F., Almeida, R.D., Yoshida, Y., *Pfaff, S.L., *Bonanomi, D., (2022). *Motor neurons use push-pull signals to direct vascular remodeling critical for their connectivity.* Neuron 110(24):4090-4107.e11. doi: 10.1016/j.neuron.2022.09.021. Epub 2022 Oct 13. PMID: 36240771 (*corresponding author)
2. Osseward PJ II, Amin ND, Moore JD, Temple BA, Barriga BK, Bachmann LC, Beltran F, Gullo M, Clark RC, Driscoll SP, *Pfaff SL, Hayashi M. (2021). *Conserved genetic signatures parcellate cardinal spinal neuron classes into local and projection subsets.* Science 372 (6540): 385-393. PMID: 33888637 (*corresponding author)
3. *Amin ND, Senturk G, Costaguta G, Driscoll S, O'Leary B, Bonanomi D, *Pfaff SL. (2021). *A hidden threshold in motor neuron gene networks for survival revealed by modulation of miR-218 dose.* Neuron 109 (20): 3252-3267. PMID: 34450025, PMCID: PMC8542606 (*corresponding author)

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