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Lee Niswander, PhD

FASEB Board of Directors

Lee Niswander, PhD, is Section Head of Developmental Biology and Professor in the Department of Pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado since 2004. Her graduate training was in mouse genetics and early embryonic development with Terry Magnuson at Case Western Reserve University. Her postdoctoral studies with Gail Martin at the University of California, San Francisco focused on limb development using chick as a model system. From 1993-2004 she was a faculty member at Memorial Sloan-Kettering Cancer Center in the Developmental Biology program and Professor at Cornell University Medical School in New York City. She was a Howard Hughes Medical Institute Investigator from 1997-2014.

The Niswander lab investigates novel mouse models of embryonic development with the overarching goal of providing insights into fundamental developmental processes, major human birth defects and potential clinical therapies. Her studies over the years have provided a unique perspective on the molecular mechanisms that control the formation of the central and peripheral nervous system, as well as lung, limb, and neuromuscular development. The current focus of the lab is on the common and severe birth defect wherein the neural tube (NT) fails to close resulting in neural tube defects (NTDs) such as spina bifida. Using a combination of genetic, molecular, biochemical and cell biological assays they have identified numerous genes involved in NT closure and determined their mechanisms of action. Niswander's lab also developed innovative methods for time-lapse imaging of the living mammalian embryo to couple molecular insights to the regulation of cell behaviors that drive NT closure. Environmental factors clearly influence human NTD risk, and her lab uses mouse models to explore gene-environment interactions that influence NTD incidence.

Dr. Niswander's honors include the Presidential Early Career Award for Scientists and Engineers, a Pew Scholars Award, Harland Winfield Mossman Developmental Biologist Award, and Investigator of the Howard Hughes Medical Institute from 1997-2014. She has served on numerous study sections at NIH, American Cancer Society, Damon Runyon Cancer Research Foundation, and Cancer Prevention and Research Institute of Texas. She has served on the





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Editorial Board for Annual Review of Cell and Developmental Biology and as the Director (2006-2011) of the six-week summer course in Embryology at the Marine Biological Laboratories at Woods Hole, MA and has been part of the course faculty since 1997. She has been President and Board Member of the Society for Developmental Biology and on the Board of Scientific Advisors at Whitney Laboratory for Marine Bioscience, University of Florida, the Jackson Laboratory, and Science Council for Marine Biological Laboratories, Woods Hole, MA. She serves as the representative to FASEB from the Society for Developmental Biology

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