Institute of Aerospace Medicine
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The molecular basis of mechanosensitivity in primary sensory neurons

Mechanical sensory stimuli impinging on our body are detected and encoded by peripheral sensory neurons that are broadly classified into low-threshold mechanoreceptors, which detect innocuous tactile stimuli, and high-threshold nociceptors, which exclusively respond to noxious stimuli. Both populations comprise several functionally distinct subpopulations that are finely tuned to detect different submodalities of touch and pain. Dr. Lechner will talk about recent advances in our understanding of how tactile and painful mechanical sensory stimuli are detected at the molecular level and will discuss how different sensory afferent subpopulations contribute to different forms of acute and chronic pain. Moreover, he will present recent findings that provide novel insights into the structure-function relationship of PIEZO channels, which are the major mechanotransducers in primary sensory neurons as well as in numerous other non-neuronal tissues.