



THE NANO INSTITUTE
AND
THE BRAIN INSTITUTE

present

EDWIN W. RUBEL, PH.D.

VIRGINIA MERRILL BLOEDEL PROFESSOR OF HEARING SCIENCE, UNIVERSITY OF WASHINGTON

FISHIN' FOR SOLUTIONS TO HEARING LOSS: FINDING GENETIC AND CHEMICAL MODULATORS OF INNER EAR HAIR CELL DEATH

Inner ear hair cell death leads to hearing loss and balance disorders. Dr. Rubel will present studies aimed at discovering genes and drugs that reveal how and why inner ear hair cells die in response to a variety of challenges. Dr. Rubel's research group utilizes the larval zebrafish, *Danio rerio*, to study modifiers of aminoglycoside and cisplatin hair cell toxicity in the lateral line system. This model has facilitated the discovery of molecules that alter hair cell susceptibility to aminoglycoside ototoxicity. First, several mutations that confer dramatic resistance to drug-induced hair cell degeneration have been identified in a genetic screen. Dr. Rubel will discuss efforts to characterize the mutant phenotypes and identify the responsible genes. Second, several protective compounds have been discovered by screening small molecule libraries. One novel compound has been shown to confer robust protection against hearing loss in mammals subjected to ototoxic aminoglycoside treatment. Dr. Rubel's work will ultimately provide tools to prevent hearing cell loss and balance disorders.

THURSDAY, MAY 5, 2011, 4:00 P.M. TO 5:00 P.M.

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