NUS National University of Singapore | Department of Biological Sciences
Faculty of Science

SEMINAR

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Hosted by Dr Timothy Saunders

Development of the zebrafish inner ear

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Development of the complex shape of the vertebrate inner ear is a spectacular example of epithelial morphogenesis. The interlinked ducts and chambers of the ear all arise from a simple ovoid epithelial vesicle in the one day-old zebrafish embryo. Over the next two days, this vesicle undergoes topological changes to generate the three semicircular canal ducts of the vestibular system. These rearrangements are accomplished by epithelial movement, fusion and fission events that generate three pillars of tissue spanning the otic lumen. Fusion of epithelia in the ear is dependent on the function of Adgrg6, an adhesion class G protein-coupled receptor. This GPCR also has a conserved function in the maturation of myelinating Schwann cells in the peripheral nervous system. I will present light-sheet imaging of the developing zebrafish ear, and the results of a chemical screen to identify compounds that modulate the activity of the Adgrg6 pathway.

Artwork by Ann Nee, DBS, NUS