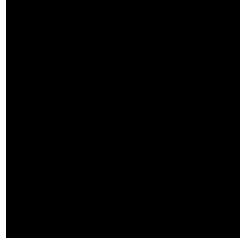


Donna M. Fekete

- Ph.D. Anatomy, Harvard Med. Sch.
 - Auditory nerve & cochlear nucleus
- Postdoctoral Fellowships at MRC (London) and Harvard Med. Sch.
 - Limb development
 - Retina development
- Professor, Department of Biological Sciences, College of Science
 - Inner ear embryology
 - Gene transfer into the embryonic inner ear
 - dfekete@purdue.edu

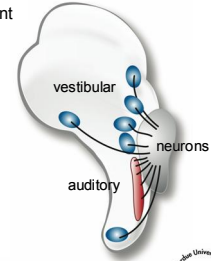


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Current Research Areas

- Genetic basis of inner ear development
 - Cell lineage
 - Cell fate specification
 - Hair bundle polarity
 - Axon guidance
- Genetic basis of congenital deafness
- Animal Models:
 - Chicken
 - Zebrafish
 - Mouse

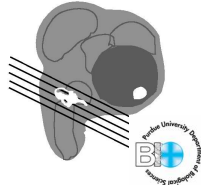
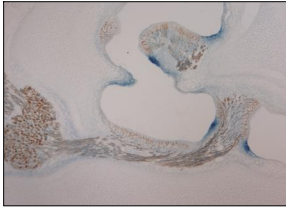


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Methodologies

- Virus-mediated gene transfer in embryos
 - virus design and construction
- In situ hybridization
- Immunohistochemistry
- Tract tracing in the nervous system
- Confocal and electron microscopy
- Molecular biology



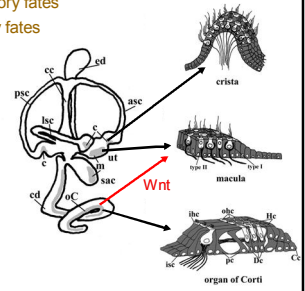
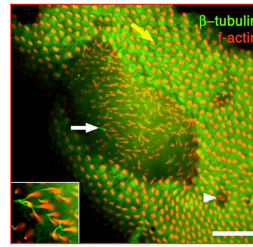
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Recent Results

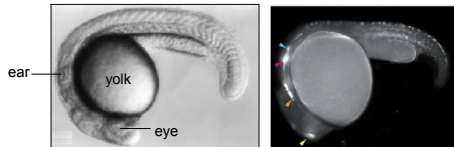
Discovery of a signaling pathway that influences two essential cell fate decisions:

- sensory vs. non-sensory fates
- vestibular vs. auditory fates



Future Directions

Gene discovery in zebrafish



Trap genes involved in development of the ear and associated neurons in the brain—screening is done by looking for fluorescence in live embryos.

Loss-of-function to explore the role of the genes.

Gain-of-function to test other candidate genes in the ears or neurons.

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