

Science and Technology in Medicine



Research Project Proforma (School of Medicine)

Research Title:	Cellular transplantation therapy for hearing impairment
Keywords (up to 5)	Hearing loss, cochlea, transplantation, stem cells
Supervisor: Job Title: Department: Email Address: Telephone: Webpage link:	Dave Furness Professor of Cellular Neuroscience Life Sciences d.n.furness@keele.ac.uk 01782 733496 http://www.keele.ac.uk/lifesci/people/davefurness/
Type of projects offered (delete as appropriate)	<div style="background-color: black; width: 100%; height: 1.2em; margin-bottom: 2px;"></div> Both

(1) Outline the broad aims of your research and its medical relevance (150 words): Hearing loss occurs progressively with age. It is a multifactorial condition, but there are several categories of hearing impairment, each with their own causative factors. One of these is metabolic hearing loss caused by cellular degeneration in the lateral wall of the cochlea leading to breakdown of homeostatic mechanisms in the inner ear. Mesenchymal stem cells or cells cultured from the lateral wall could potentially be used to replace degenerating cells of the lateral wall. My research is investigating that possibility by developing a strategy to transplant cells into the lateral wall. This could lead to a therapeutic intervention that reduced or halted the progression of age-related hearing loss in people

(2) Indicate the skills/techniques the student will learn (100 words)

Cell culture; development of transplantable matrices; histology, immunocytochemistry, light, confocal and electron microscopy.

Please submit this form electronically to Prof Divya Maitreyi Chari on d.chari@keele.ac.uk by 31 July 2015