The lifecourse of the auditory system

In partnership with the charity Action on Hearing Loss (formerly RNID)

Full proposal deadline (invite only): 29 April 2014

Summary

Action on Hearing Loss and BBSRC wish to encourage research that will increase our understanding of how the auditory system develops and ages and the processes that lead to age-related hearing loss. We also wish to encourage research that will apply this knowledge to prevent and treat hearing loss to ultimately improve quality of life.

Background

Hearing loss is a major public health issue, affecting over 10M people in the UK- one out of every six people. Hearing loss is a growing problem in an ageing population, as much of this hearing loss is age-related (by the time a person is 60, there is a more than 50% chance that they will have some form of hearing loss) and it is predicted that by 2031, over 14.5 million people will be affected, placing a huge burden on society and the economy. Hearing loss may not cause significant mortality, but it does have a severe impact on people's quality of life and leads to isolation from friends and family. It is also associated with dementia, depression and decreased physical wellbeing and can hinder both education and employment.

Current medical interventions are largely limited to hearing aids and cochlear implants. Whilst these devices benefit many they are far from perfect as they do not reproduce the clarity and richness of natural hearing and can perform poorly when there is a high level of background noise. There is an urgent need for new interventions to prevent hearing loss and restore natural hearing.

It is critical, therefore, that we understand the fundamental mechanisms underlying the development of the auditory system, how it ages and the processes that lead to age-related hearing loss; and knowledge that can be used to develop treatments to reverse or prevent hearing loss. Since many of the processes underpinning the degeneration of the auditory system are shared with other neurodegenerative conditions, advances made in understanding the molecular basis of hearing loss are also likely to benefit other fields. Action on Hearing Loss and BBSRC recognises these gaps in the research knowledge base and wish to build capacity in these areas.

Objectives

We encourage UK investigators to develop and submit project proposals that will:

1. **Increase our understanding of the lifecourse of the auditory system**

Basic research that will:

- Advance our understanding of the mechanisms controlling the development of either the peripheral or central auditory system and of the basic biological changes (molecular, structural, physiological) that occur with age
- Increase our understanding of how the function of the auditory system is affected by age and the causes of age-related hearing loss

2. **Investigate prevention and treatments of hearing loss**

Innovative and applied research that will:

- Contribute to the development of novel approaches to halting or slowing down the progression of age-related hearing loss
- Advance strategies to either prevent hearing loss or restore function.

For general queries direct your request to the relevant funding agency from the contacts below.

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