**YEAR: 2014/15**

**SUPERVISOR: DR RICHARD WINGATE**

**STUDENT: MR THOMAS BAXTER**

**INSTITUTION: KING’S COLLEGE, LONDON**

**PROJECT TITLE: A GENETIC ANATOMY OF THE INHIBITORY NEURONS IN THE AVIAN FIRST ORDER AUDITORY NUCLEI**

**Brief Resume of your Project’s outcomes for the Society’s Website**: **(no more than 200-250 words)**.

*The title of your project and a brief 200-250 word description of the proposed/completed project. The description should include sufficient detail to be of general interest to a broad readership including scientists and non-specialists. Please also try to include 1-2 graphical images (minimum 75dpi). NB: Authors should NOT include sensitive material or data that they do not want disclosed at this time.*

"A genetic anatomy of the inhibitory neurons in the avian first order auditory nuclei"

The auditory systems of birds and mammals have undergone separate evolution since these lineages shared their last common ancestor 320 million years ago. While the common origin of the auditory end organ is well established, to date there is no consensus as to whether the first order auditory nuclei of birds and mammals are evolutionarily related. Electrophysiological recordings, together with morphological descriptions, have identified the neuronal types present in the ventral and dorsal cochlear nuclei of mammals and the nucleus angularis and magnocellularis of birds. We used genetic techniques in the chick to map the origins of these neurons in birds. In particular, we used the enhancer region of the gene, Ptf1a, to track the development of inhibitory neurons within the chick auditory nuclei. Despite numerous similarities in function, our analysis suggests that the first order auditory nuclei in birds and mammals have very different developmental origins. This argues against a common ancestral circuit for both auditory networks

*File: POR201415WingateBaxter*