**Bike String Quartet**

**Eamonn McCrossan**

**Ph.D. (Part-Time), Music**

 This composition was written for a specific workshop on the theme of sport and was performed by the Coull String Quartet. The original video file shows our local Motorbike hero Michael Dunlop completing a circuit of the Isle of Mann TT in record time. I processed the motorbike sound into a spectrogram using SPEAR to form an environmental sound deconstruction of the motorbike. This composition interrogates the phenomenon of auditory stream segregation and how it is connected to the complexities that are present in our vision. Research carried out by Albert Bregman into the auditory system found that sound is organized similarly to perceptual ideas, as set out by Gestalt principles, resulting in an overlapping coexistence between the two. Gestalt theorists believe that the mind obeys the principle of 'belongingness' (see Bregman, 1990, pp. 12). Whereas Auditory scene analysis deals with sound in two stages: firstly the mixture of sounds are decomposed into a collection of sensory elements including pitch trajectories, onsets and modulations. Secondly, any elements that are related from the same event are grouped to form a perceptual structure known as streaming. From this concept of streaming we get 'simultaneous grouping' and 'sequential grouping'. This composition also explores the concept of impressions of movement illustrated by Korte's third law, where the 'horizontal position in space is made to correspond to the frequency of the tones, with time playing the role of the second dimension' (see Bregman 1990, pp. 22). Kotre’s law goes further to explain that there is a parallel law in audition where the 'melodic motion takes the place of spatial motion', this can be found throughout the entire piece.