Abstract:
Making sense of what we see relies on both data driven (bottom-up) and hypothesis (top-down) processing. This latter stream uses internal models of the world and expectation to bring awareness and plausible meaning to seeing. On occasions, when direct analysis of the visual input becomes impaired by disease or trauma, higher order processing can compensate by perceptually completing the missing input, and, in cases of extensive visual loss, can also be responsible for the generation of visual hallucinations. The occurrence of these possibilities offer useful opportunities to explore and understand the neural underpinning of perception. This lecture will describe some of our laboratory and clinical studies to characterise these phenomena.