**PROJECT RESUME**

**TITLE**: 3D-reconstruction of the human choroid to gain new insights into age-related macular degeneration (AMD)

Age-related macular degeneration (AMD) is the commonest cause of irreversible blindness in developed societies. AMD cases in the UK is estimated to exceed 700,000 patients and results in the loss of central vision, which is used for everyday activities such as reading, driving and recognising faces. A common aetiology underpinned by advanced age, genetic and lifestyle risk factors drive two clinically well-defined end-stages termed geographic atrophy (dry) and neovascular (wet) AMD. Wet AMD can be managed in most patients via regular/lifelong intravitreal anti-VEGF injections. By contrast, patients with dry AMD have no effective treatment whatsoever.

The project will use highly sought-after donor/human retinal punch biopsies from AMD patients and healthy subjects. For the first time, we will reconstruct the network of blood vessels supplying the outer retina in 3D, where changes to these tissues are thought to play a key role in developing both forms of AMD.

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