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## A Life-Changing View on Alzheimer's

An Interview with Professor Melanie Campbell  
Optics Researcher, University of Waterloo

### What are you looking for in the eyes that relates to Alzheimer's?

Some of my work involves understanding things like why myopia develops, why people become short-sighted and need glasses, but the most exciting project at the moment is one to attempt to diagnose Alzheimer's disease by imaging structures at the back of the eye, in the neural layers of the eye. So in a way, we're using the eye as a window on the brain.

### How does your research work?

So what we are imaging is something called amyloid beta, which is the protein that creates the plaques in Alzheimer's disease and they are located usually in the brain. So finding them in the neural tissue of the retina is relatively new and the retina is much easier to image than the brain because it's transparent to light. Now currently you can only diagnose Alzheimer's disease following death. So if we can develop this non-invasive method of doing the imaging, which would be readily accessible to people, then an early diagnostic of Alzheimer's might be possible.

### What could this mean for future patients?

This early diagnosis is very important because it gets the patient involved in their care, when the disease is still at an early stage. It also means that drugs that work best at early stage of the disease to slow down its progression can then be used. Even more exciting is the idea that this technique could be used to test how well various treatments are working.