Tell me about your research
My research has a broad focus on dementia. There are different proteins which can cause dementia and I study two of them - amyloid beta and tau proteins.

When these proteins are broken down, they can be cleared from the brain through the recently discovered ‘glymphatic system’. I look at whether it’s possible to visualise the movement of fluid in this system. Star shaped cells called astrocytes have water channels that allow water to move through the brain.

What motivates you?
I was a research technician who had been working in dementia research for five years when a PhD position came up. The glymphatic system was a new area of research which was exciting, even though there was some scepticism as so few people were working on it.

Are there any myths about your work which bother you?
Small groups have latched on to the idea that massage can help this fluid movement, despite no evidence.

There are also myths around what can help prevent dementia. The evidence that brain training helps dementia is weak, but there is very strong evidence for exercise and some evidence for sleep having a protective effect.

In an ideal world, where do you see your work in the future?
I’d like to see more research into the impact of exercise on the glymphatic system. The water channels which allow this fluid flow could be a target for treatment if we can find a way to improve function.

About the artwork
The main image represents the fluid clearing system in the brain. It was adapted from work published by Jeffrey Illiff and colleagues (Illiff et al 2012). The border of stars is inspired by the star-shaped astrocyte brain cells which I’m fascinated by - Hana

This design & profile were created based on an interview conducted in late 2019. They are made available under a CC BY-NC-ND 2.0 UK license. Visit hanaayoob.co.uk/dementia for more information.

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