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Brain dances



Our brain handles many different streams of information.

It's a bit like a railway traffic controller. Electrical signals in the brain can be thought of as trains shuttling messages between stations. These can be long or short, fast or slow, direct or detoured. The arrival and departure of trains, at any station, needs precise timing and coordination.

The healthy brain is superb at all this.

We can visualise the messages using colours. Slower messages have warmer hues - red, yellow, orange. Faster messages are green, blue or indigo. So we imagine our brains pulsing with colours, depending on the messages being sent.

As we make sense of the world and respond to our environment, we can picture our brains doing multi-coloured dances. In health, they do these dances remarkably well. In illness the brain's ability to coordinate is often reduced.

I am studying how our brains perform these electrical dances in health and illness. My research looks for changes that could, for example, show the start of mental illness.

If we can find these signatures of illness - known as 'neural biomarkers' - it could lead to better treatment options for those who need them.

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Brain science, Health and wellbeing
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