UNIVERSITY OF LEICESTER

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TOWARDS THE NEXT GENERATION OF RETINAL NEUROPROSTHESIS: VISUAL COMPUTATION WITH SPIKES

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Systems Neuroscience

Neuroprosthesis, as a precision medicine device, is aiming for manipulating the neuronal signals of the brain in a closed-loop fashion, together with receiving stimulus from the environment and controlling some part of our brain/body. In terms of vision, incoming information can be processed by the brain in millisecond interval. The retina computes visual scenes and then sends its output in terms of neuronal spikes to the cortex for further computation. Therefore, the neuronal signal of the interest for retinal neuroprosthesis is the spike. Here I propose that for a better understanding of the computational principles in the retina, one needs a hypercircuit view of the retina that makes it an ideal neuronal network to adapt the computational techniques developed in artificial intelligence for modelling of encoding/decoding visual scenes.

Thursday 31 January 2019, 1-2pm

VENUE

Lecture Theatre 2, George Davies Centre

Refreshments available

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The Physiological Society

Department of Neuroscience, Psychology and Behaviour Seminar

This event is free and open to all staff and students

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