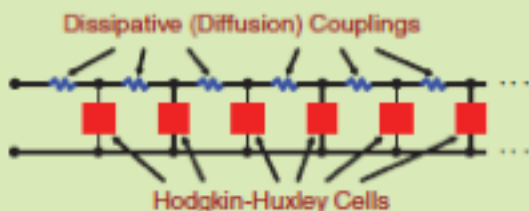


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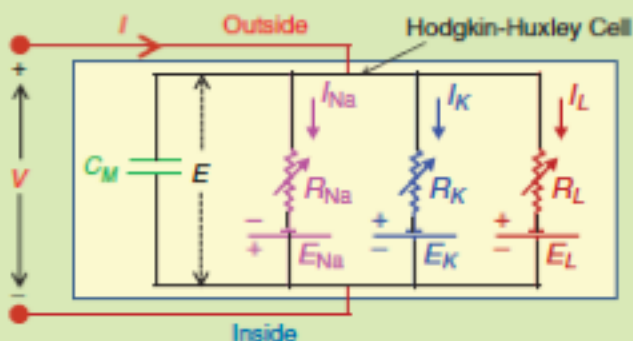




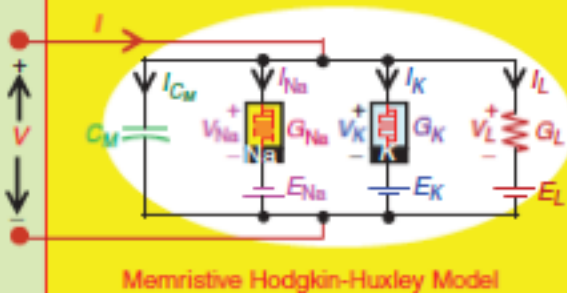
(a)



(b)



(c)



(d)

Figure 1. (a) Schematic of a neuron and its axon. (b) One-dimensional axon model made of resistively coupled Hodgkin-Huxley cells. (c) Hodgkin-Huxley circuit model made of a capacitor C_M , a resistor R_L , three batteries E_{Na} , E_K , and E_L , a time-varying potassium resistor R_K , and a time-varying sodium resistor R_{Na} . (d) Memristive Hodgkin-Huxley axon circuit model.

END DIRECTOR GENERAL SECRETARY PRODUCTION

Complex behavior (physical) principles & laws (bottom-up)



Memristors

[memristor.org]

“memory resistors”, are a type of passive circuit elements that maintain a relationship between the time integrals of current and voltage across a two terminal element.

Thus, a memristors' resistance varies according to a devices memristance function, allowing, via tiny read charges, access to a “history” of applied voltage

More properties:

Memory

Classical conditioning (aversion / preference)

Sah, M. P., Kim, H., & Chua, L. O. (2014). Brains are made of memristors. *IEEE circuits and systems magazine*, 14(1), 12-36.

Complex behaviour from (physical) principles & laws (bottom-up)

END DIRECTED EVOLUTION TO STATES OF HIGHER ENTROPY PRODUCTION

More properties:

Memory

Classical conditioning (aversion / preference)

Memristors

[memristor.org]

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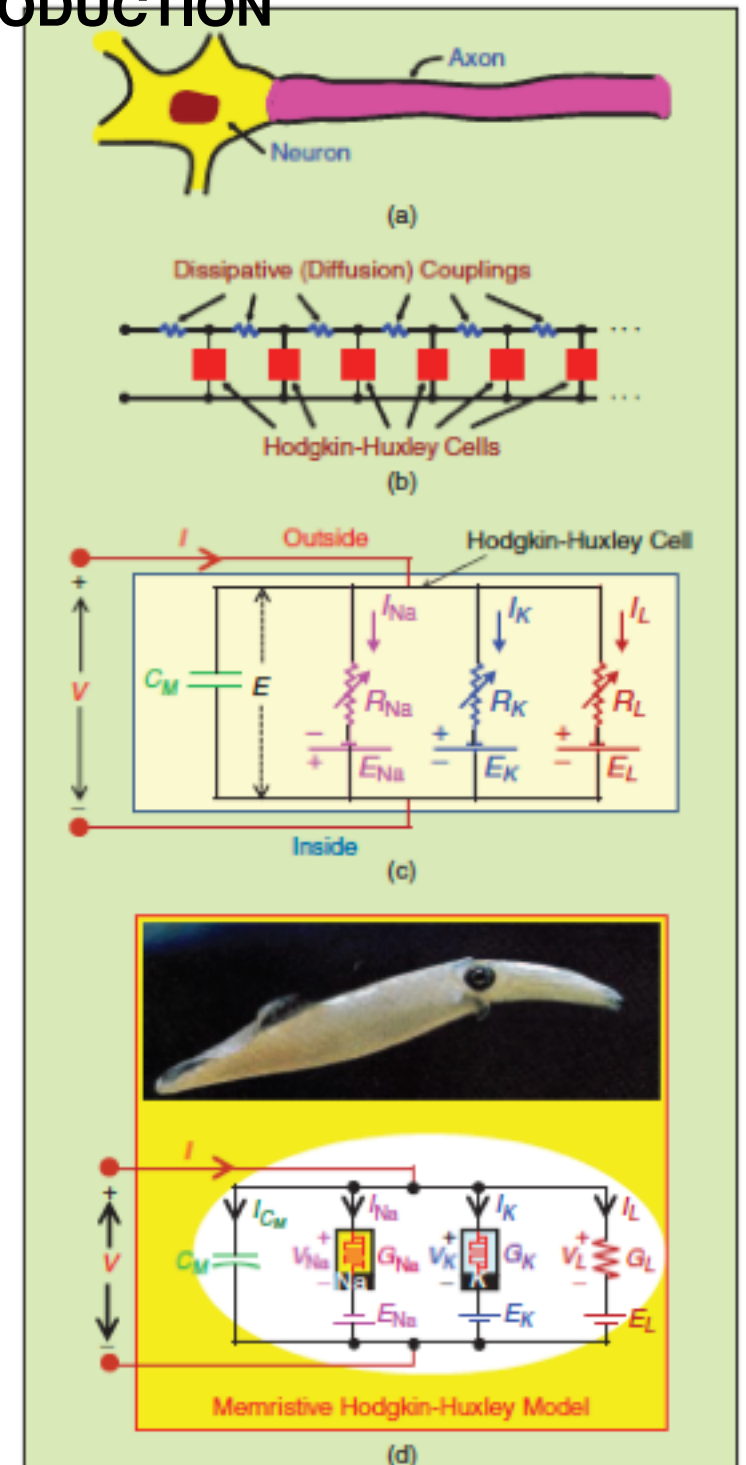


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Natural Computation in Physics >> Dissipative Systems

“... regard the physical world as made of information, with energy and matter as incidentals” -Bekenstein (2003, p.59)

