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Memristors for the curious outsiders

This talk is going to be an introduction to the topic of memristors. We provide both an overview and a perspective of recent experimental advances and proposed new approaches to performing computation using memristors. A memristor is a 2-terminal passive component with a dynamic resistance depending on an internal (physical) parameter. We provide a brief historical introduction, as well as an overview of the physical mechanisms (both classical and the proposed quantum ones) that lead to memristive behavior. We end the talk with my own personal contributions to this topic.