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The Neurobiology of Thirst

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Thirst is a primordial emotion that plays a key role in osmoregulation. Studies performed during the past 50 years have shown that the motivation to drink water is stimulated when the body experiences a deficit in extracellular fluid (EFC) or when the concentration of ECF solutes is increased (hyperosmolality). However recent work has shown that thirst can also be stimulated by feed-forward mechanisms that anticipate future deficits before they occur. In this seminar Bourque will summarize recent work in his lab that has increased our understanding of the mechanisms that mediate detection of ECF hyperosmolality, and shown how the central circadian clock can drive water intake before sleep.