**Desperately Seeking Serotonin**

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We seek to understand how the neurotransmitter serotonin encodes information underlying anxiety and stress. Throughout our journey, we have had to develop and advance neuroanalytical methods to monitor serotonin levels *in vivo* with high temporal, spatial, and chemical resolution. Building on the pioneering work of Ralph Adams, we used electrochemical detection of serotonin to advance fast microdialysis sampling coupled with online HPLC. To directly sample the brain's extracellular signaling space, we developed rapid-pulse voltammetry combined with machine learning for multiplexed measurements of serotonin and dopamine. In addition to electrochemistry, we established electronic biosensors based on DNA aptamers for molecular recognition, paired with field-effect transistors for electronic signal transduction. These sensors broaden detection to non-electrochemically active neurotransmitters and hormones for implantable and wearable monitoring. Through high-resolution monitoring, we discovered the transgenerational impact of stress on anxiety-related behavior in adult mouse offspring and are progressing toward wearable multiplexed biomarker measurements for personalized insights into human stress responses.