My research focuses on developing methods for performing two-photon imaging in rats during performance of cognitive tasks. Specifically, my studies combine four powerful approaches: (1) high-throughput rat behavioral training; (2) rat performance of complex cognitive behaviors; (3) voluntary head-restraint; and (4) cellular-resolution two-photon imaging of neural activity. Using these methods, I have performed the first cellular-resolution imaging study of rats performing a cognitive behavior, a decision-making task requiring accumulation of visual evidence during voluntary head-restraint.