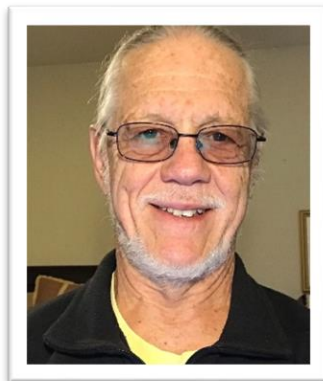




2022 SRS Board of Directors Candidate

Director-at-Large

James Shaffery, DPhil



I have been a member of the Sleep Research Society since 1986. I have previously served on the Education Committee, as a member and then as Chair. Subsequently, I served on the Pipeline Development Committee, as a member and currently as Chair. I look forward to the opportunity to continue to contribute to the SRS a member of the Board of Directors, if elected to the position.

In the late eighties, I joined Howard Roffwarg's Animal Sleep Laboratory as a postdoctoral fellow initiating my current line of research that has focused upon testing Dr. Roffwarg's ontogenetic hypothesis of the function of rapid eye movement (REM) sleep, which he proposed in the mid-1960s after studying how this (then) newly discovered state of sleep developed in early life. When I first began working with Dr. Roffwarg's animal sleep laboratory at UT Southwestern, the lab was just beginning to implement the Hubel and Wiesel monocular patching model as an experimental matrix for testing the possibility that REM sleep played a role in brain maturation. Our early work with this model in young kittens, investigating the effects of REM sleep deprivation on visual system development provided the first data directly supporting the "ontogenetic hypothesis" of the function of REM sleep in brain maturation. After Dr. Roffwarg moved the research group to the University of Mississippi Medical Center, I assumed the role of primary investigator on this research when the grant was refunded.

During the continuation of that grant, under my leadership, our work in kittens and rats uncovered some of the electrophysiological and molecular mechanisms that permit this sleep state to affect developmental synaptic plasticity in both visual cortex and hippocampus. Research in my laboratory has provided the first data demonstrating that REM sleep deprivation during an early critical period directly

affects plasticity mechanisms involved in synaptic connectivity in the developing brain. Our work on synaptic plasticity studies of long-term potentiation (LTP) and long-term-depression (LTD) induction in brain slices have demonstrated that REMS deprivation in early life has long-term effects on LTP and LTD in both visual cortex and hippocampus.