

Unlock Advanced Insights in Sleep and Breathing Studies

Dr. Ralph Lydic, a leading researcher in sleep neurobiology and opioid-induced respiratory depression, shares how DSI's cutting-edge solutions revolutionized his preclinical studies. Previously hindered by cumbersome, analog methods—such as head-fixed cables, nasal thermistors, and manual paper-based data scoring—his team faced significant challenges in accurately measuring EEG, EMG, and airflow.

Innovative Technology from DSI

DSI's innovative tools, including telemetry implants (HD-X02), Ponemah® software, and FinePointe® software, eliminated these barriers. By enabling wireless, near-real-time data collection and high-fidelity analysis of EEG, EMG, temperature, movement, and breathing, DSI empowered Dr. Lydic's team to study freely behaving mice with unmatched precision. Whole body plethysmography chambers and advanced algorithms further refined breathing measurements, distinguishing subtle behaviors like sniffing.



Dr. Ralph Lydic

Professor Neuroscience in Psychology
University of Tennessee

Key Benefits for Research

- **Precision and Reliability:** The HD-X02 telemetry implant captures multiple variables, ensuring accurate sleep and wakefulness scoring.
- **Translational Impact:** With 98% homology between mouse and human genomes, DSI's tools enhance the relevance of findings for human health.
- **Reproducibility:** Widely adopted DSI systems facilitate consistent results across labs.
- **Expanded Scope:** DSI's solutions enabled groundbreaking discoveries, such as how opioids like buprenorphine affect breathing variability in obese female mice and disrupt sleep states (published in *Anesthesiology* and *Journal of Neurophysiology*).

Why Choose DSI?

DSI's technology streamlines data collection, boosts accuracy, and broadens research possibilities. By replacing outdated methods with scalable, user-friendly systems, DSI empowers researchers to uncover critical insights efficiently. Join leading scientists like Dr. Lydic in advancing preclinical research with DSI's trusted solutions.

Learn how DSI can elevate your research at datasci.com.

Reference

Lydic, R., (2025). R. Lydic prose invited by DSI.



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