

# UNIVERSITY OF WISCONSIN SLEEP RESEARCH LABORATORY

## Description and Location

The Sleep Research Laboratory is part of the Clinical and Translational Research Core of the University of Wisconsin. The Research Laboratory is in a dedicated wing of the Clinical Research Unit (CRU) in University of Wisconsin Hospital and Clinics. The Sleep Research Lab consists of two sleep rooms and a control room. The sleep rooms are used almost exclusively by the Wisconsin Sleep Cohort Study, but are also available for other researchers.

## Equipment

### **(10/2009 – 2015)**

Each sleep room was served by a single-bed Grass Technologies Comet Lab - based digital sleep system. The systems have 40 AC channels, 31 referential and 9 bipolar, with 8 DC coupled auxiliary inputs. Both systems are equipped with AS40 research amplifiers having a bandwidth of 1.0Hz-100Hz.

### **(6/2000 – 10/2009)**

Each sleep room was served by a single-bed Grass Telefactor Heritage digital sleep system. The systems have 16 AC channels, 8 selectable and 8 fixed, with 4 DC coupled auxiliary inputs. Both systems are equipped with 15A54 research amplifiers having a bandwidth of 0.5Hz-6kHz.

### **(1989 – 2000)**

Each sleep room was served by a single bed Grass Telefactor polysomnography (analog) system, Polygraph model 78. The systems have 18 channels, 16 AC channels with 2 DC inputs.

In addition to the two recording systems, the control room also has a reviewer station for data analysis. All systems are networked, allowing for off-site review and analysis.

The two sleep rooms and control room are equipped with state-of-the-art video and audio monitoring. Input/output connections between sleep room and control room are made through in-the-wall connector panels for increased assurance of optimum signal-to-noise ratios.

Polysomnography is obtained from EEG scalp electrodes, electrooculogram, EMG of chin and legs, ECG, snore microphone, airflow from Dymedix nasal-oral thermistor, Pro-Tech nasal pressure transducer, breathing effort from Pro-Tech zRIP inductance plethysmography summation systems, and oxygen hemoglobin from the Ohmeda 3900 oximeter using a 3-second averaging rate.