SUMMARY

The ColonyRack is an innovative system for the automated tracking of a large population of mice (more than 200). A standard cage rack is equipped with interconnecting tubes that allow the passage of animals through all cages in the rack. All tubes have RFID transponder readers that will record each passage of a tagged animal with exact time and position.

The system operates 24/7 for extended periods of time producing accurate data about the movement of all animals contained in the system. Detailed maps and patterns of movement of each animal can be derived from these data sets. Long term studies about the change in general activity, social interaction, and movement patterns become possible.
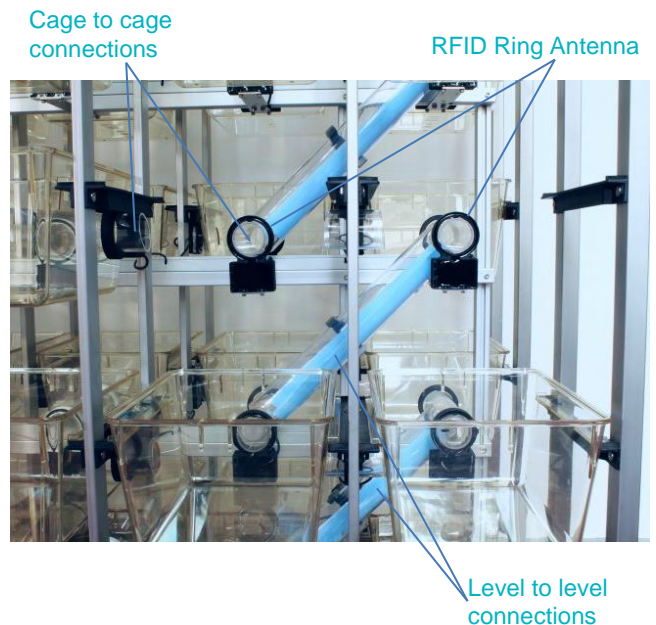
ColonyRack Hardware

- 70 cages in a standard rack mount (>200 animals)
- Interconnecting tubes between all cages and levels
- 115 RFID readers with micro-controllers
- PC for data acquisition
- Duplicate set of connection tubes and cages for easy maintenance
- Blocking rods for separating cages

ColonyRack Software functions

- 24/7 data acquisition
- Graphical user interface reporting detected individual and position
- Continuous tracking of all transponder activities
- Open data format for easy import and analysis

ColonyRack with 70 cages

Cage to cage connections

RFID Ring Antenna

Level to level connections

Complete setup with 70 cages, sensors, and all interconnects

APPLICATIONS

- Long-term investigation of social groups of animals
- Observing individuality in large cohort
- Monitoring of changes in activity, e.g. aging or frailty studies

KEY FUNCTIONS

- 24/7 data recording
- All cages and tubes are easy to remove for cleaning and maintenance.
- Customized systems with different cages or number of cages are possible.

ADVANTAGES

- Animal friendly
- Easy to operate, clean, and maintain
- Reliable long-term data
- Longitudinal studies