Mouse voluntary running (ClockLab3).v1

IMPORTANT!! Never turn off the "ClockLab3" program or the computer. You will disrupt other's experiments!!! Please talk to Zhen if you have any questions.

Set up the system

1. Connect the digital interface (ACT-556B) boxes to the computer.
2. Connect the home-made 63-channel breakout box to the digital interface using RJ-45 cables in order.
3. Connect the cages to the 63-channel breakout box using RCA connectors with
4.
5. Turn on the computer by pushing the power button.
6. Log in the computer by using the password "yanlab".
7. Double click on "ClockLab3" to launch the data collection software.
8. Click on "Setting" and then "Channel Setting" to set up the parameters.
9. Set "Sample period" to 1 min (only need to do this once and no need to change) and click "OK".

Set up cages

10. House mice in the Voluntary Running Room (MR4 XXXX) in a dark-light cycle (7:00 pm off, 7:00 am on).
11. Double click on the channel under "File Names".
12. Select the location where you want to save your file for that channel in "Directory".
13. Enter the file name for the mouse in "Enter Base Name", such as 200618A1.
14. Click on "Save" for the channels that you want to turn on and the color will change to green. The counts will be recorded every min and the data will be written to the file once an hour.

Data analysis

1. Double click on "ClockLab Analysis" to launch the analysis software.
2. Open the file by going to "File" to find it and click "OK".
3. Report the data by go to "Export" and select "Count" in Excel sheet.
4. Calculate the running distance by multiplying the counts by 0.357 (wheel circumference) (this gives you meters/min)
5. Calculate the total running distance for each day by summing the meters/min over 24-hour increments (this gives you meters/day)
6. Save the Excel sheet in a location you want.
7. Save all the Excel files in a thumb drive to transfer to your computer for further data analysis.