- runAll
  - Description:
    - Runs all the following scripts in sequence to generate all figures. However, this should not be necessary to run; model parameter values are stored in .mat files and will be automatically loaded. This way, one can run "characterizeCockroach" without running "tuneCockroach" first.
  - Figures:
    - All
- tuneCockroach
  - Description:
    - Minimizes mean squared error between animal recording and model response to the same stimulus. Saves parameter values in cockroachParams.mat, which is loaded by subsequent cockroach models.
  - Figures:
    - 2
- characterizeCockroach
  - Description:
    - Simulates responses of cockroach proximal tibial CS to various stimuli.
  - Figures:
    - 3, 4, and 5
- invertCockroach
  - Description:
    - Runs inverted cockroach CS model, estimating force required to produce afferent discharges.
  - Figures:
    - 8
- cleanStickInsectData
  - Description:
    - Takes recorded stimulus torques and changes signs to enforce a common convention (extensor torques positive, flexor torques negative).
    - Delays discharge relative to torque stimulus by 1 time step to assist model tuning (i.e. model responses lag 1 time step behind the applied torque).
    - Assigns recorded discharges to 6A, 6B, or 6B large caps only, by reassigning columns in the original recording matrix. Saves time, force, and discharge for 8 trials in stickInsectWalkingForces.mat, which is loaded by subsequent stick insect models.
  - Figures:
    - None.
- tuneStickInsect
  - Description:
    - Tunes parameter values for 6A model based on one trial with predominantly extensor torques. Tunes parameter values for 6B model based on a separate trial with predominantly flexor torques.

        - Tests the models' ability to predict discharge in response to 6 additional torque stimuli.
    - Figures:
        - 6
- characterizeStickInsect
    - Description:
        - Plots stick insect 6B model's response to a dynamic walking force stimulus. Scales the stimulus to observe how the response changes.
    - Figures:
        - 7
- invertStickInsect
    - Description:
        - One-group method
        - Two-group method
    - Figures:
        - 9 and 10
- powerLawSolutions
    - Description:
        - Explores general response properties of the model.
    - Figures:
        - S1, S2, and S3