# Delsys-Based sEMG Processing and Feature Extraction

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# Background

- Delsys
  - high-performing device designed to make EMG signal detection reliable and easy
  - wireless system
  - support real-time data stream into 3rd party software
  - built-in triaxial accelerometer
- sEMG
  - muscle performance
  - sports study
  - motor control

# Object

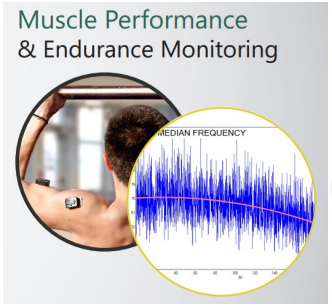
- Real-time sEMG signal collection based on Delsys
- sEMG analysis : signal de-noising, valid signal extraction, etc
- Apply sEMG to yoga interaction, monitoring muscle activating degree, evaluating muscle state, etc

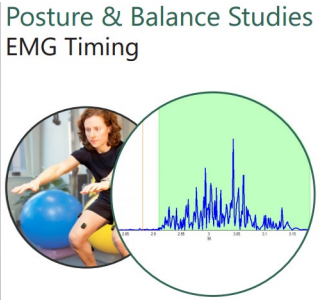
# Object

real time sEMG data collect

signal processing

feature extraction




# Task

- Data transmission
  - learn about Delsys
  - tcp\ip acquire data based on QT
- Processing
  - extract valid signal
  - de-noising
- Feature extraction
  - time domain
  - frequency domain

# Plan

| time | task |
| --- | --- |
| week 1 | learn about Delsys;<br>create matlab function to acquire real time data; |
| week 2 | realize data transmission with QT;<br>study methods to process signal;<br>signal processing; |
| week 3 | learn about signal feature;<br>classify features;<br>extract features; |
| week 4 | apply sEMG to yoga interaction |

# *Thanks*