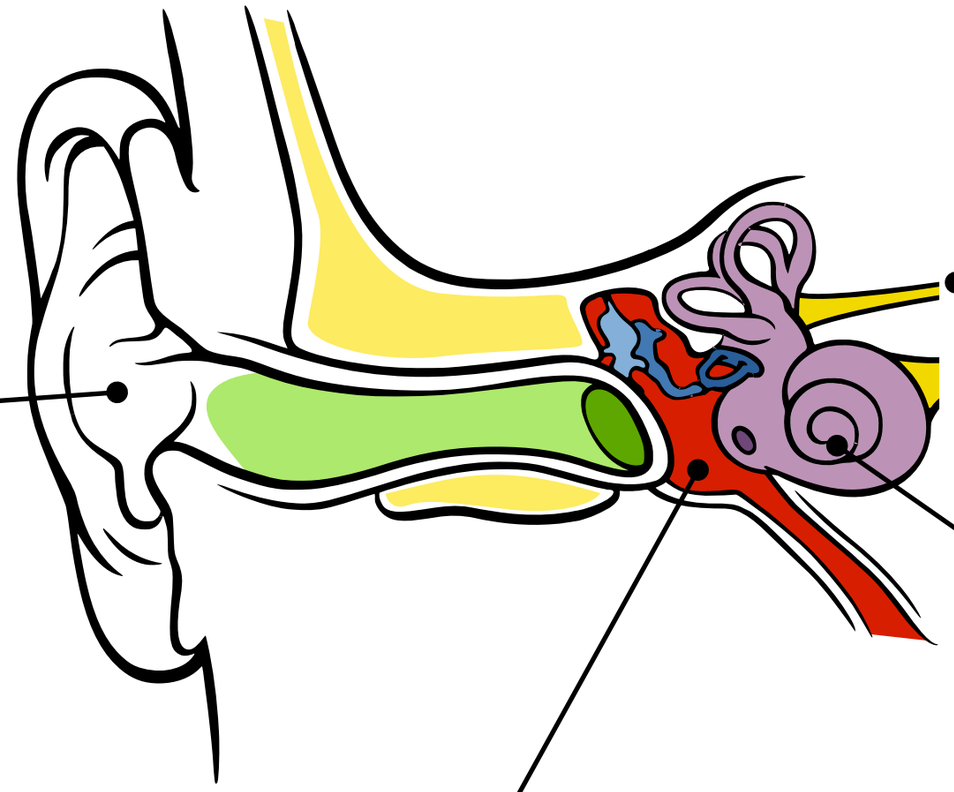
`pambox.audio` is a thin wrapper around `pyaudio` to simplify the playback of numpy arrays.

`pambox.outer` contains classes and functions related to the outer ear, such as:

- Head-related transfer functions (HRTFs);
- Headphone + ear transfer functions.

`pambox.utils` provides useful function for manipulating signals, and converting data, e.g.:

- set or measure a signal's level;
- add two signals of different lengths;
- apply filtering via FFT.



`pambox.middle` describes the frequency response of the middle ear.

`pambox.central` provides model stages from the central auditory pathway.

- Decision metrics;
- Modulation filtering;
- Ideal observer;
- Optimal detector.

`pambox.inner` regroups inner ear functions, such as:

- Cochlear filtering;
- Inner hair cell envelope extraction;
- Adaptation;
- And other filter banks.

`pambox.speech` contains speech intelligibility prediction models as well as "helper" functions to simplify experiments and comparisons across models (see section below).

Planned modules

`pambox.mono`: will regroup published models making complete predictions of monaural percepts, such as:

- Gap detection threshold;
- Modulation threshold;
- Masking;
- Signal detection.

`pambox.binaural` will contains models predicting binaural percepts, such as:

- Interaural level and time differences (ILDs and ITDs);
- Source localization.