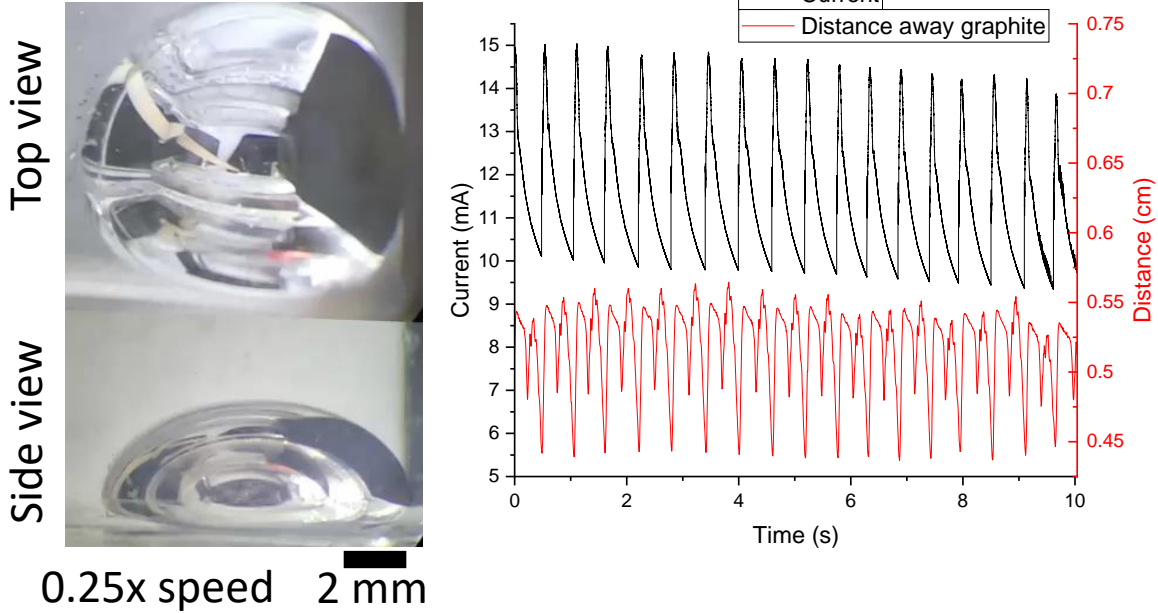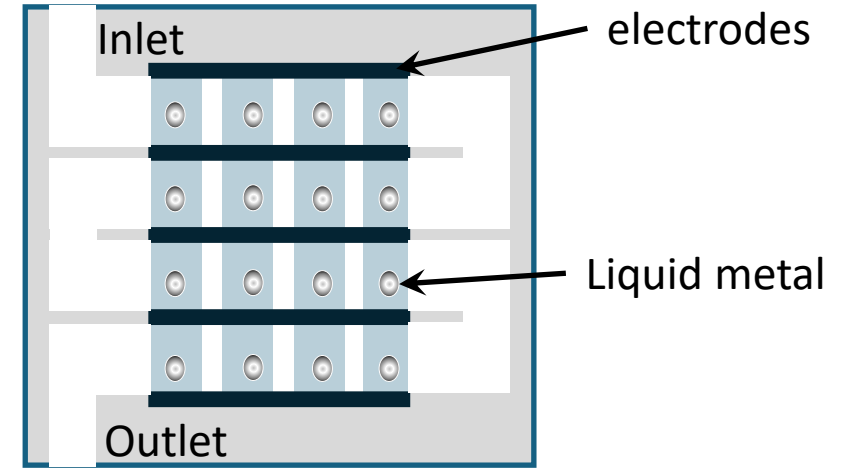# Research Project 4: Neural network based on liquid metal droplet oscillators

Liquid metal droplet producing oscillatory signals
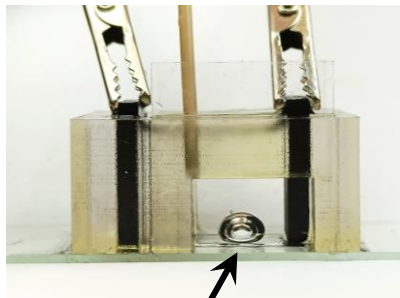

Top view

Side view

0.25x speed   2 mm

Proposed microfluidic design

Inlet

electrodes

Liquid metal

Outlet

1. How can we design and control the coupling between different oscillators?

3D printed device

Liquid metal Droplet

Proposed data-processing coding strategy

Training

a
e
i
o
u
...

Coding

τ

Reservoir based on EGaIn droplet oscillators

decoding

Vowel input

a
e
i
o
u
...

Classification
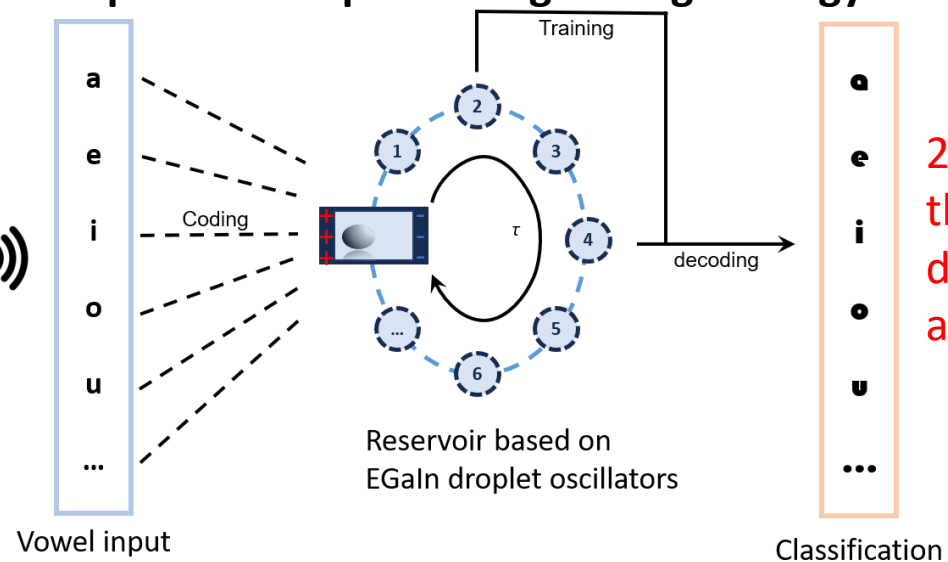
2. How can we use the oscillator(s) in data processing such as vowel recognition?