

# **Apparatus for efficient vibrotactile stimulation, especially vibrotactile fingertip stimulation**

The Tass Lab has invented non-invasive, Vibrotactile Coordinated Reset (vCR) stimulation devices and methods to safely and efficiently treat brain disorders characterized by abnormal neuronal synchrony such as Parkinson's disease.

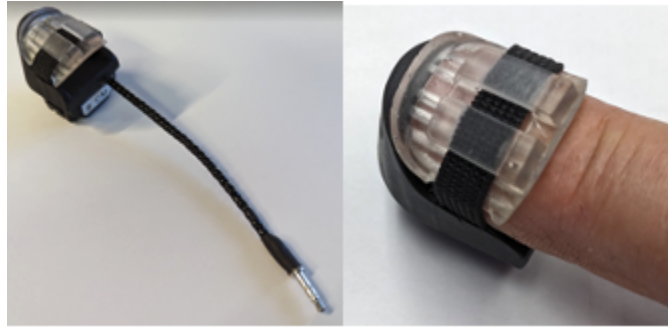
This invention enhances vibrotactile stimulation efficiency by introducing a novel vibrotactile mechanical stimulator (tactor). This device incorporates elements such as a shock absorber, a physiologically optimized contactor shape, and a wavebreaking hole to reduce surface wave spread. The specific fingertip fixation allows the tactor to be mounted on fingertips of various sizes, maintaining consistent contact pressure.

The key advantage of this innovation is its ability to achieve more effective vibratory stimulation with lower vibration amplitudes, resulting in significantly reduced noise levels and minimized propagation of skin vibration waves.

## **Stage of Development**

- Prototype
- Ready for clinical pilot studies

**Figure:**



**Figure description:** Device Prototype. (*Image credit: Tass Lab*)

### **Related Technologies:**

17-270: [Safe and efficient vibrotactile multi-channel stimulation for the treatment of brain disorders](#)

23-359: [Apparatus for efficient vibrotactile and electrotactile fingertip stimulation](#)

23-360: [Apparatus and method for efficient long-term multi-channel non-invasive stimulation for the treatment of disorders of the nervous system](#)

23-373: [Apparatus and method for efficient multichannel vibrotactile stimulation with compound pulses](#)

23-406: [Apparatus and method for efficient combined vibrotactile and electrotactile stimulation for the therapy of disorders of the nervous system](#)

23-407: [Apparatus for efficient electrotactile fingertip stimulation for the treatment of disorders of the nervous system](#)

23-408: [Apparatus and method for efficient wireless synchronization of multi-site non-invasive stimulation for the treatment of disorders of the nervous system](#)

23-409: [Method and apparatus for autonomous parameter adaptation of non-invasive multichannel stimulation](#)

## **Applications**

- Vibrotactile glove/fingertip stimulation array therapy for the treatment of Parkinson's disease as well as further movement disorders

## **Advantages**

- Non-invasive
- Enhanced vibrotactile stimulation efficiency
- More effective vibratory stimulation with lower vibration amplitudes, resulting in significantly reduced noise levels and minimized propagation of skin vibration waves

## Patents

- Published Application: [WO2025097075](#)

## Innovators

- Peter Tass
- Gary Barbadillo
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- Sean Brinkerhoff
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- John Dring
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