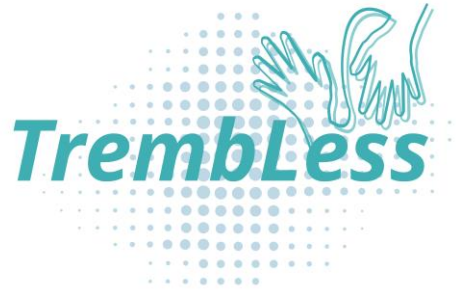


Anti-vibratory bracelet



Founder & CEO of TrembLess
Sarah GEBAL, Research engineer

Doctorate: Sciences de l'ingénieur

Masters: Sciences in mechanical engineering



Problem and solution

❑ Pathological tremor

- Essential tremor (ET)
- Parkinson's disease (PD)



❑ Social impact

- Social embarrassment
- Dependent on caregivers

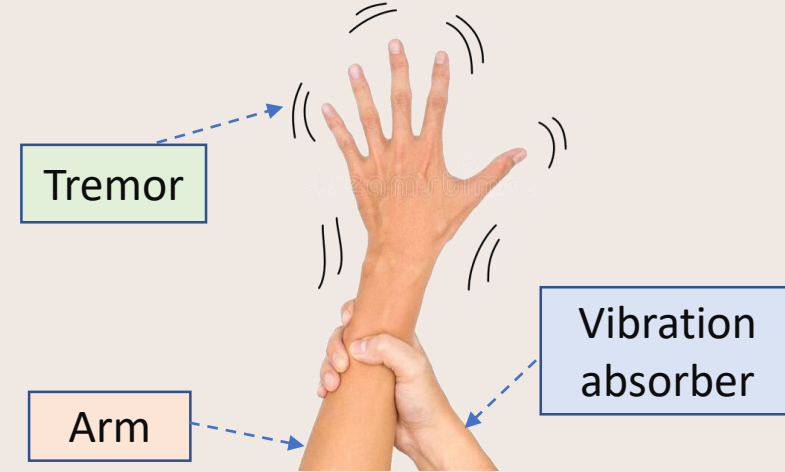


❑ Available solutions

- Medications: negative side effect
- Surgical treatments: medical intervention
- Strong need of alternative solutions

❑ Proposed solution

- Wearable non-invasive system (no side effects)



- Advantages?

Reduce tremor symptoms

Limit medications intake

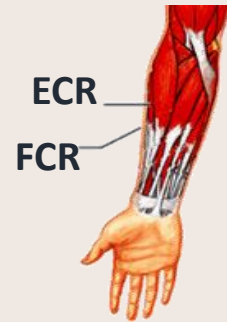
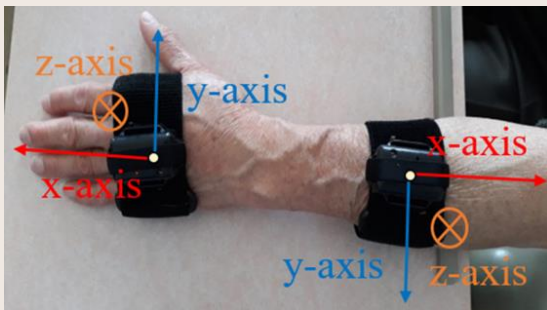
Improve medications effectiveness

Better life quality

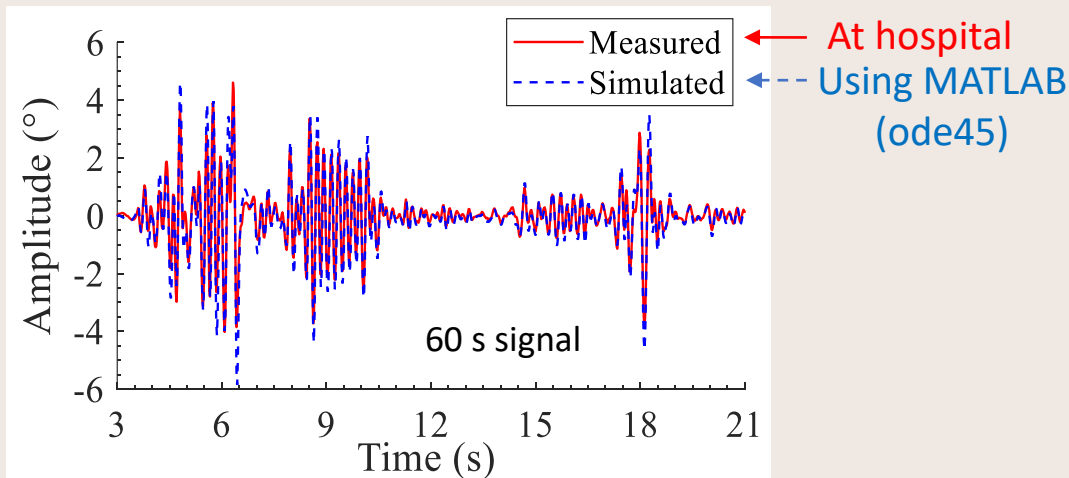
Passive absorber (Ph.D.)

□ Design characteristics

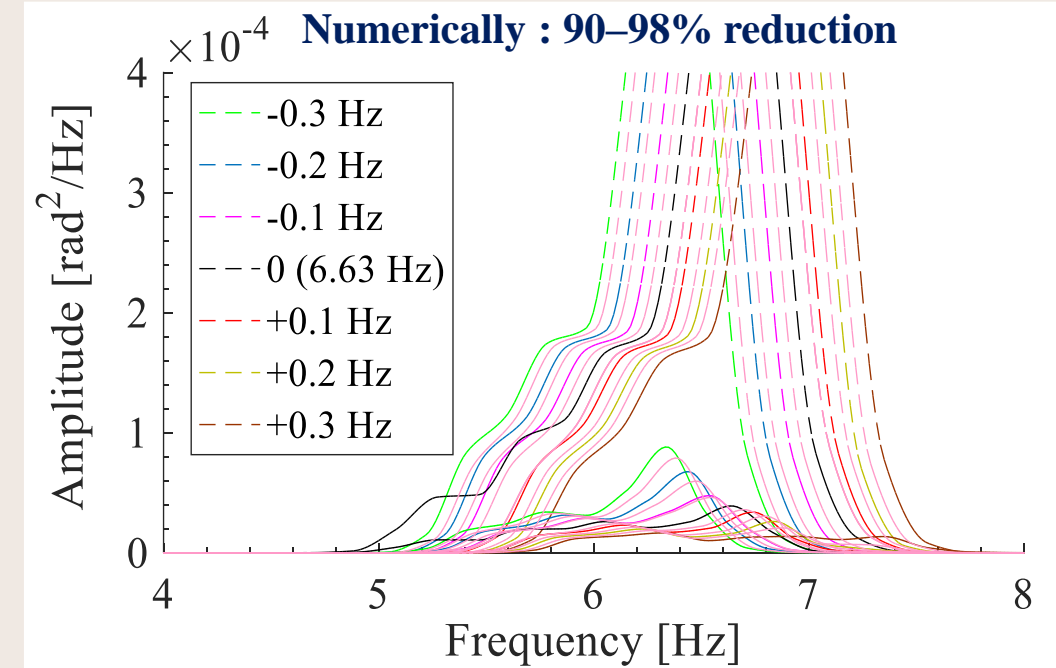
- Large dataset analysis
 - Tremor measurements (Hôpital pitié salpetriere)



- Reliability of modeled system
 - Simulated vs. measured tremor signals



- Design with robustness and high performance
 - Act against the frequency shifting



- Maintain the lightweight : 42 g total mass
- Shortest possible length is used


- Experimental validation in the lab

- High performance: reduction of 82%


Background

□ Diplôme


Doctorat en
Sciences de l'ingénieur



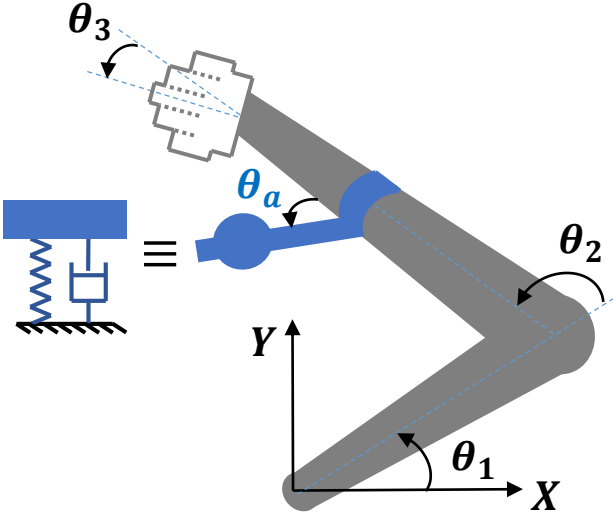
ÉCOLE NATIONALE DES
PONTS
ET CHAUSSÉES



LABORATOIRE
NAVIER



Hôpital
Pitié-Salpêtrière
AP-HP



□ Scientific roadmap



Optimization of
vibration absorbers
for **essential tremor**

2016-2020

- 4 journals
- 1 international conf.
- 1 national conf.

2021 + 2023

- 2 international conf.
- 1 national conf.



Nonlinear absorber
for **essential tremor**

2014-2016

- 5 journals
- 7 international conf.
- 1 national conf.



Vibration absorber
for **rest tremor**

Milestones

Prizes and certificates



BIO
TUESDAYS

LE RDV BIMESTRIEL
SCIENCES DE LA VIE - SANTÉ

MÉTROPOLE

GRAND

LYON

Thanks for you attention !



Empowering Arms Stability

Founder & CEO of TrembLess

Sarah GEBAI

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