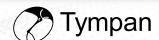# Tympan

Open-Source Audio Processing Platform Live Workshop!

2020-06-08
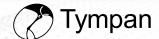
Session 1aPP

Tympan

Introduction

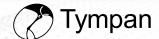# Open Source Audio Processing Platforms

- **US Government - NIH/NIDCD Initiative**

- **Open source tools to:**
  - **Standardize implementations across groups**
  - **Sustain research to extract user benefit from algorithms**
  - **Speed use of new commercial semiconductor hardware**
  - **Lower barriers for development of new audio processing algorithms.**

- **Embedded Hardware & Software built for Audio Processing**

- **Several groups were funded**
  - **3 RO1's (algorithm focus) and 3 SBIRs (hardware focus)**

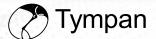http://www.nidcd.nih.gov/funding/programs/Pages/Open-Speech-Signal-Processing-Platform-Workshop.aspx

Tympan

Tympan Platform

- **The Tympan was developed through a collaboration between:**
  - Creare LLC
  - Boys Town Medical Research Center
  - University of Nebraska, Lincoln
  - tympan.org

- **tympan.org was created as a result of a Phase I SBIR for this project**

- **tympan.org is independent of Creare but received funding from the grant to help with commercialization**

Tympan

Agenda

- **Introduction to the ASA Challenge**   **9:30am**
- **Tympan Open-Source Audio Platform Overview**   **9:35am**
- **Tympan use examples**   **9:50am**
  - **Chris Smalt: Sound level meter for complex noise**
  - **Chip Audette: Voice Shifting**
  - **Joshua Alexander: Electroacoustic measurements**
  - **Marc Brennan: Human studies with the Tympan**
  - **Joel Murphy: Howler Monkey Audio Recorder**
- ***Break***   **11:05am**
- **Q&A – pitch your ideas**   **11:20am**
- **Open source initiatives**   **11:50am**
- **Live tutorial**   **12:00pm**

Tympan

Open Source Platform Overview

Eric Yuan
Engineer from Creare LLC

Joel Murphy
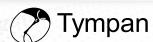**Founder of tympan.org**
Open source hardware expert

Tympan

Use Cases Panel

Chris Smalt
Engineer from MIT Lincoln Labs

Chip Audette
Engineer from Creare LLC

Josh Alexander
Ass. professor from Purdue

Marc Brennan
Asst. professor from UNL

Joel Murphy
from tympan.org

Tympan

Tympan Open Source Audio Processing Challenge

- **Try tympan for your audio processing projects**

- **Submit a proposal by June 20, 2021 (see link)**

- **Top 10 applicants will receive *FREE* hardware**

- **Submit abstracts on your project to ASA for December special session**

- **Share your ideas, hardware or software improvements**

- **Collaborate with others through the tympan forum**

Tympan