

# Yue Qiao

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## Princeton University

Dept. of Mechanical & Aerospace Engineering  
H101 Von Neumann Hall  
Princeton, NJ 08544

Phone: (609) 933-1271  
Email: yqiao@princeton.edu  
Website: yqiao.mycpanel.princeton.edu

## Education

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<b>Princeton University</b> , Princeton, NJ M.A. & Ph.D., Mechanical and Aerospace Engineering Advisor: Edgar Choueiri	2019 - Present
<b>Penn State University</b> , University Park, PA Graduate program in Acoustics (Distance Education, non-degree seeking)	2019 - 2020
<b>Peking University</b> , Beijing, China B.S., Physics Minor in Theory and History of Arts (Musicology oriented)	2015 - 2019
<b>Hong Kong University of Science and Technology</b> , Hong Kong SAR Exchange program at School of Science	Spring 2017

## Academic and Industrial Experience

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<b>3-D Audio and Applied Acoustics (3D3A) Laboratory, Princeton University</b> <i>Assistant in Research</i> , advisor: Edgar Choueiri Working on personal sound zone reproduction for multiple listeners and binaural audio reproduction through loudspeakers.	2019 - Present
<b>Reality Labs, Meta</b> <i>Research Engineer Intern</i> , manager: Pablo F. Hoffmann Developed machine-learning-based models for spatial audio quality evaluation.	Summer 2022
<b>Speech and Hearing Research Center (SHRC), Peking University</b> <i>Undergraduate Research Assistant</i> , advisor: Tianshu Qu Worked on building a spherical microphone array for sound field recording and implementing its encoding and decoding system in higher-order Ambisonics.	2018 - 2019
<b>Center for Computer Research in Music and Acoustics (CCRMA), Stanford University</b> <i>Undergraduate Visiting Research Intern</i> , advisor: Fernando Lopez-Lezcano, Chris Chafe	Summer 2018

Worked on interactive musical performance with spatial audio in higher-order Ambisonics and physical modeling of sound objects using Leap Motion for hand gesture control.

## Awards and Honors

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- **Best Student Paper Award** at the 152nd AES Convention *May 2022*
- **Best Poster Award** at the 6th Peking Univ. Young Scientists Symposium on Informatics *Fall 2018*
- **Weiming Physics Students Fellowship**, Peking University *Fall 2018*
- **Award for Scientific Research**, Peking University *Fall 2017*
- **3<sup>rd</sup> Prize** in Chinese Undergraduate Physicists' Tournament on-campus contest *Spring 2016*
- **Bronze Medal** in the 31<sup>st</sup> Chinese Physics Olympiad *Fall 2014*
- **2<sup>nd</sup> Place** in Semifinals of the 31<sup>st</sup> Chinese Physics Olympiad, Gansu Province *Fall 2014*
- **1<sup>st</sup> Prize** in Chinese Mathematics Olympiad, Gansu Province *Fall 2014*

## Publications

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### Peer-reviewed conference and journal publications

(In Press) **Yue Qiao** and Edgar Choueiri. "The Effects of Individualized Binaural Room Transfer Functions for Personal Sound Zones", *Journal of the Audio Engineering Society*, 2023.

**Yue Qiao** and Edgar Choueiri. "Optimal Spatial Sampling of Plant Transfer Functions for Head-Trackable Personal Sound Zones", in *Audio Engineering Society Convention 154*. Finland, 2023.

**Yue Qiao**, Léo Guadagnin, and Edgar Choueiri. "Isolation performance metrics for personal sound zone reproduction systems", *JASA Express Letters*, 2022.

**Yue Qiao**, Nick Zacharov, and Pablo F. Hoffmann. "Prediction of Timbral and Spatial Audio Quality with Independent Auditory Feature Mapping", in *Audio Engineering Society Convention 153*. Online, 2022.

**Yue Qiao** and Edgar Choueiri. "The Performance of A Personal Sound Zone System with Generic and Individualized Binaural Room Transfer Functions", in *Audio Engineering Society Convention 152*. Online, 2022.

**Yue Qiao** and Edgar Choueiri. "Real-time Implementation of the Spectral Division Method for Binaural Personal Audio Delivery with Head Tracking." in *Audio Engineering Society Convention 151*. Online, 2021.

Mengfan Zhang, **Yue Qiao**, Xihong Wu, and Tianshu Qu. "Distance-Dependent Modeling of Head-Related Transfer Functions." in *IEEE International Conference on Acoustics, Speech and Signal Processing*. Brighton, UK, 2019.

Zhongshu Ge, **Yue Qiao**, Shusen Wang, Xihong Wu, and Tianshu Qu. "Subjective Evaluation of Virtual Room Auralization System based on the Ambisonics Matching Projection Decoding Method", in *Audio*

*Engineering Society Convention 145*. New York, NY, USA, 2018.

Tianshu Qu, Zhichao Huang, **Yue Qiao**, and Xihong Wu. “Matching Projection Decoding Method for Ambisonics System”, in *IEEE International Conference on Acoustics, Speech and Signal Processing*. Calgary, Alberta, Canada, 2018.

## Technical reports

3D Sound Field Recording and Playback Using Spherical Microphone Arrays, in *the 6th Peking University Young Scientists Symposium on Informatics*, Beijing, Nov 2018.

A microphone distribution method on spherical microphone arrays using Ambisonics, in *the 64th Conference of Audio Video coding Standard Workgroup of China*, Dalian, Aug 2017.

## Teaching Experience

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### Teaching Assistant

- Spring 2023, MAE 306 Mathematics in Engineering II, Princeton MAE department.
- Fall 2021, MAE 433 Automatic Control Systems, Princeton MAE department.
- Spring 2021, MAE 224 Integrated Engineering Science Laboratory, Princeton MAE department.