Yue Qiao

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Education

Princeton University, Princeton, NJ — 2019 - Present
M.A. & Ph.D., Mechanical and Aerospace Engineering
Advisor: Edgar Choueiri

Penn State University, University Park, PA — 2019 - 2020
Graduate program in Acoustics (Distance Education, non-degree seeking)

Peking University, Beijing, China — 2015 - 2019
B.S., Physics
Minor in Theory and History of Arts (Musicology oriented)

Hong Kong University of Science and Technology, Hong Kong SAR — 2017
Exchange program at School of Science

Academic and Industrial Experience

3-D Audio and Applied Acoustics (3D3A) Laboratory, Princeton University — 2019 - Present
Assistant in Research, advisor: Edgar Choueiri
Working on binaural audio reproduction through loudspeakers and personal sound zone reproduction for multiple listeners.

Reality Labs, Meta — Summer 2022
Research Engineer Intern, manager: Pablo F. Hoffmann
Developed machine-learning-based models for spatial audio quality evaluation.

Speech and Hearing Research Center (SHRC), Peking University — 2018 - 2019
Undergraduate Research Assistant, advisor: Tianshu Qu
Worked on developing a spherical microphone array for sound field recording and implementing its encoding and decoding system in 4th-order Ambisonics.

Center for Computer Research in Music and Acoustics (CCRMA), Stanford University Summer 2018
Undergraduate Visiting Research Intern, advisor: Fernando Lopez-Lezcano, Chris Chafe
Worked on interactive musical performance based on Ambisonics and physical modeling of sound objects using Leap Motion for gesture control.

Awards and Honors

- **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*
- **3rd Prize** in Chinese Undergraduate Physicists' Tournament on-campus contest *Spring 2016*
- **Bronze Medal** in the 31^{st} Chinese Physics Olympiad *Fall 2014*
- **2nd Place** in Semifinals of the 31^{st} Chinese Physics Olympiad, Gansu Province *Fall 2014*
- **1st Prize** in Chinese Mathematics Olympiad, Gansu Province *Fall 2014*

Publications

Peer-reviewed conference and journal publications

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

(Accepted) **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

Teaching Assistant

- Fall 2021, MAE 433 Automatic Control Systems, Princeton MAE department.
- Spring 2021, MAE 224 Integrated Engineering Science Laboratory, Princeton MAE department.