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

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

Teaching Assistant

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