

# Jiaxin (Jay) Zhong

## Post-Doc in Acoustics at Penn State University

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## Employment

### Post-Doc

#### Penn State University

Dec 2022 – Ongoing University Park

- Job description 1
- Job description 2

## Projects

### Project 1

#### Funding agency/institution

- Details

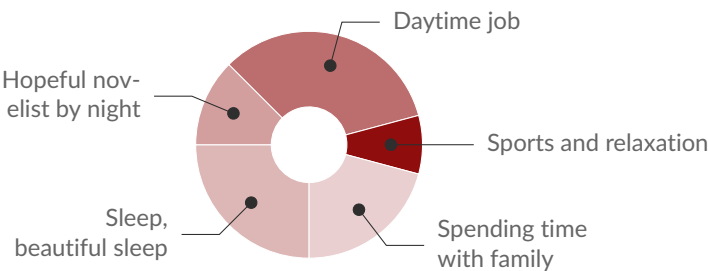
### Project 2

#### Funding agency/institution

Project duration

A short abstract would also work.

## A Day of My Life



## Education

### Ph.D. in Acoustics

#### University of Technology Sydney

Mar 2019 – Aug 2022

Advisors: Prof. Ray Kirby, Dr. Mahmoud Karimi, Prof. Xiaojun Qiu  
Thesis title: Parametric array loudspeakers and applications in active noise control

### M.Sc. in Acoustics

#### Nanjing University

Sept 2015 – June 2018

Advisors: A/Prof. Jiancheng Tao, Prof. Xiaojun Qiu  
Thesis: Effects of a finite size reflecting disk on sound power measurements

## My Life Philosophy

*“Something smart or heartfelt, preferably in one sentence.”*

## Most Proud of

**Fantastic Achievement**  
and some details about it

**Another achievement**  
more details about it of course

**Another achievement**  
more details about it of course

## Strengths

Hard-working Eye for detail

Motivator & Leader

C++ Embedded Systems

Statistical Analysis

## Languages

English ● ● ● ● ●

Spanish ● ● ● ● ●

German ● ● ● ● ●

## Referees

### Dr. Yun Jing

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### Prof. Ray Kirby

@ University of Technology Sydney

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### Dr. Mahmoud Karimi

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B.Sc. in Acoustics

Nanjing University

Sept 2011 – June 2015

Advisor: Prof. Xinlong Wang

Thesis: The study of matching layers for ultrasonic transducers

@ University of Technology Sydney

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**Prof. Xiaojun Qiu**

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**Prof. Jing Lu**

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## Publications

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*“\*”: corresponding author. Underline: students under the supervision of Dr. Jiaxin Zhong.*

### 📖 Books

- [B1] **Jiaxin Zhong** and Xiaojun Qiu, “Acoustic Waves Generated by Parametric Array Loudspeakers,” CRC Press, In preparation (2023).
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### 📄 Journal Articles

- [J19] **Jiaxin Zhong**, Haishan Zou, Jing Lu, and Dong Zhang\*, “A modified convolution model for calculating the far field directivity of a parametric array loudspeaker,” *J. Acoust. Soc. Am.* Under review (2022).
- [J18] **Jiaxin Zhong**, Tao Zhuang, Ray Kirby, Mahmoud Karimi, Jing Lu, and Dong Zhang\*, “Suppressing grating lobes for a steerable parametric array loudspeaker,” *IEEE Trans. Audio Speech Lang. Process.* Under review (2022).
- [J17] Tao Zhuang, **Jiaxin Zhong\***, Ray Kirby, Mahmoud Karimi, and Jing Lu, “A steerable non-paraxial Gaussian beam expansion for a steerable parametric array loudspeaker,” *J. Acoust. Soc. Am.* 153(1), 124–136 (2023).
- [J16] **Jiaxin Zhong**, Tao Zhuang, Ray Kirby, Mahmoud Karimi, Xiaojun Qiu, Haishan Zou\*, and Jing Lu, “Low frequency audio sound field generated by a focusing parametric array loudspeaker,” *IEEE Trans. Audio Speech Lang. Process.* 30, 3098–3109 (2022).
- [J15] **Jiaxin Zhong**, Ray Kirby, Mahmoud Karimi, and Haishan Zou\*, “A spherical wave expansion for a steerable parametric array loudspeaker using Zernike polynomials,” *J. Acoust. Soc. Am.* 152(4), 2296–2308 (2022).
- [J14] **Jiaxin Zhong**, Ray Kirby, Mahmoud Karimi, Haishan Zou\*, and Xiaojun Qiu, “Scattering by a rigid sphere of audio sound generated by a parametric array loudspeaker,” *J. Acoust. Soc. Am.* 151(3), 1615–1626 (2022).
- [J13] **Jiaxin Zhong**, Tao Zhuang, Ray Kirby, Mahmoud Karimi, Haishan Zou\*, and Xiaojun Qiu, “Quiet zone generation in a free field with multiple parametric array loudspeakers,” *J. Acoust. Soc. Am.* 151(2), 1235–1245 (2022).
- [J12] **Jiaxin Zhong**, Ray Kirby, Mahmoud Karimi, and Haishan Zou\*, “A cylindrical expansion of the audio sound for a steerable parametric array loudspeaker,” *J. Acoust. Soc. Am.* 150(5), 3797–3806 (2021).
- [J11] **Jiaxin Zhong\***, Ray Kirby, and Xiaojun Qiu, “The near field, Westervelt far field, and inverse-law far field of the audio sound generated by parametric array loudspeakers,” *J. Acoust. Soc. Am.* 149(3), 1524–1535 (2021).
- [J10] **Jiaxin Zhong\*** and Xiaojun Qiu, “On the spherical expansion for calculating the sound radiated by a baffled circular piston,” *J. Theor. Comput. Acoust.* 2050026 (2020).
- [J9] **Jiaxin Zhong\***, Shuping Wang, Ray Kirby, and Xiaojun Qiu, “Reflection of audio sounds generated by a parametric array loudspeaker,” *J. Acoust. Soc. Am.* 148(4), 2327–2336 (2020).
- [J8] **Jiaxin Zhong\***, Shuping Wang, Ray Kirby, and Xiaojun Qiu, “Insertion loss of a thin partition for audio sounds generated by a parametric array loudspeaker,” *J. Acoust. Soc. Am.* 148(1), 226–235 (2020).
- [J7] **Jiaxin Zhong\***, Ray Kirby, and Xiaojun Qiu, “A spherical expansion for audio sounds generated by a circular parametric array loudspeaker,” *J. Acoust. Soc. Am.* 147(5), 3502–3510 (2020).
- [J6] **Jiaxin Zhong**, Baicun Chen, Jianchen Tao\*, and Xiaojun Qiu, “The performance of active noise control systems on ground with two parallel reflecting surfaces,” *J. Acoust. Soc. Am.* 147(5), 3397–3407 (2020).

- [J5] Shuping Wang\*, **Jiaxin Zhong**, Xiaojun Qiu, and Ian Burnett, "A note on using panel diffusers to improve sound field diffusivity in reverberation rooms below 100 Hz," *Appl. Acoust.* 169, 107471 (2020).
  - [J4] **Jiaxin Zhong**\*, Ray Kirby, and Xiaojun Qiu, "A non-paraxial model for the audio sound behind a non-baffled parametric array loudspeaker (L)," *J. Acoust. Soc. Am.* 147(3), 1577-1580 (2020).
  - [J3] **Jiaxin Zhong**, Jiancheng Tao\*, and Xiaojun Qiu, "Increasing the performance of active noise control systems on ground with two vertical reflecting surfaces with an included angle," *J. Acoust. Soc. Am.* 146(6), 4075-4085 (2019).
  - [J2] **Jiaxin Zhong**, Jiancheng Tao\*, and Xiaojun Qiu, "Increasing the performance of active noise control systems on ground with a finite size vertical reflecting surface," *Appl. Acoust.* 154, 193-200 (2019).
  - [J1] **Jiaxin Zhong**, Jiancheng Tao\*, Feng Niu, and Xiaojun Qiu, "Effects of a finite size reflecting disk in sound power measurement," *Appl. Acoust.* 140, 24-29 (2018).
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