

Cuitian Peng

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Personal Academic Website: <https://monica0807.github.io/CuitianPeng1999.github.io/>

Research interest: Neurodegenerative diseases, Retina diseases, Bioinformatics.



ACADEMIC EDUCATIONAL BACKGROUND

University of Chinese Academy of Sciences (UCAS)

Beijing, China

M.S. in Biology and Medicine

Sep 2021-July 2024 (Expected)

GPA: 3.84/4.00, Full-Funded Academic Scholarship

Thesis: Spatiotemporal Transcriptomic Atlas of the Chick Retina Differing in Response to Myopia.

Modules: Bioinformatics, Microbial Genetics and Molecular Biology, Epigenetics, etc.

Beijing Genomic Institute (BGI)

Shenzhen, China

Joint Master Student, Full-funded Academic Scholarship

Sep 2022– Present

Training: Genomics, Neuroscience, Epigenetics, etc.

Zhongkai University of Agriculture and Engineering

Guangzhou, China

B.S. in Animal Science

Sep 2017- July 2021

GPA: 3.4/4.00, Second Class Scholarship

Thesis: Effects of Resveratrol on *SIRT1* Signalling Pathway and Antioxidant Capacity of Ducks on Exposure to Acute Heat Stress

Modules: Animal Physiology, Animal Genetics, Veterinary Biology, etc.

SKILLS

- **Computer Programming language:** Linux, R, Python, Perl.
- **Laboratory Skills:** DNA extraction, PCR, ELISA, Western Blot, Single-cell RNA sequencing (scRNA-seq), Spatial Transcriptomics.
- **IT Skills:** Proficient in MS Office, including Word, Excel, PPT, etc.
- **Language Skills:** English (Proficient), Mandarin (Native), Cantonese (Native)

RESEARCH EXPERIENCES

Zhongkai University of Agriculture and Engineering, Guangzhou, China

Research Program:

< Establishment of RPA-LFD visual detection method for animal influenza A virus > 2018-2019

- The study aimed to establish a recombinant polymerase amplification-lateral flow dipstick (RPA-LFD) detection method for animal influenza A virus (IAV).
- My contributions: Performed the experiments & participate in the competition as a representative

< Effects of resveratrol on *SIRT1* signaling pathway and antioxidant capacity of duck liver under acute heat stress > 2020-2021

- This study aimed to investigate the effects of resveratrol supplementation on the antioxidant capacity of Shanma ducks under acute heat stress.
- My contributions: Performed the experiments & analyzed the data

BGI-research, Shenzhen, China

Research Program:

< Spatial Transcriptomic Atlas of the Chick Retina Differing in Response to Myopia > 2022-present

- Using spatial transcriptomics and single-cell transcriptomics technologies to map the cellular atlas of the retina, choroid, and sclera spaces and to compare the proportions, distributions, and gene expression levels induced by myopia in different cell types, subtypes, and structural regions of the retina. Additionally, to reveal the limitations of the chicken myopia model, this project investigates the spatial expression characteristics of human myopia-related pathogenic genes in the chicken retina, providing a theoretical basis for using the chicken model in myopia treatment.
- My contribution: Conceived and designed the experiments, performed the experiments, analyzed the data, provided reagents/materials/analysis tools, and wrote and revised the manuscripts.

< A Human Cerebral Single-Cell Spatial Atlas of Alzheimer's Disease > 2022-present

- The study will utilize state-of-the-art spatial transcriptomics technology to establish methods for characterizing pathological features and microenvironmental indicators. Through these methods, we will explore the spatiotemporal interactions between pathological features and surrounding microenvironment components such as neurons, glial cells, and blood vessels, to elucidate their impact on core pathological changes in AD, including neuronal damage, neuroinflammation, and metabolic disturbances.
- My contribution: Performed the experiments & analyzed the data

PUBLICATIONS AND PATENTS

- Effects of Resveratrol on Anti-oxidation and Anti-apoptosis of Hepatocytes of Ducks on Exposure to Acute Heat Stress.
Acta Veterinaria et Zootechnica Sinica, 2023.
Wanting Zhou, Chen Yang, **Cuitian Peng**, Xinliang Fu, Zhuohua Zhong, Danning Xu , Yunmao Huang, Yunbo Tian, Wenjun Liu
- A Method for Freezing and Embedding Brain Tissue. CN202311363954.4.
Chinese Patent (CN), 2023.10
QiXu, HuiWei, NingyuanZhu, **Cuitian Peng**, et al.

AWARDS AND ACHIEVEMENTS

- Participant of OptoRevolution: Exploring the Frontiers of Physiology with Light, 2023
- Member of the Organizing Committee of the International Conference on Genomics (ICG), 2022
- 1st Prize, The First Guangdong Province Undergraduate Animal Production College Student Innovation and Design Competition, 2021
- Excellent Student Cadre of Zhongkai University of Agriculture and Engineering, 2020
- Outstanding Work Award, The 2nd Guangdong-Hong Kong-Macao Greater Bay Area University Student Art Festival - University Student Art Achievements Exhibition
- National 2nd Place, National College Student Financial Elite Challenge Cup
- Obtained Level 13 Chinese Dance from Beijing Dance Academy