

Yitong Zhao

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Date of Birth: Dec. 24, 2001



Jiangsu, China

Gainesville, US

EDUCATION

Sep. 2019 – Jun. 2023

Jiangsu University of Science and Technology

Major: Bioengineering

Bachelor of Engineering, June 2023

Sep. 2023 – Present

University of Florida

Major: Biomedical engineering

Master of Biomedical Engineering

SCIENTIFIC RESEARCH

Feb. 2021 – Sep. 2021

Enhancing the Physicochemical Stability of Anthocyanins with Amphiphilic Peptide Co-Assembly

- ♦ Co-assembled amphiphilic peptide C6 with tryptophan amino acid and anthocyanin C3G to improve the stability of anthocyanins
- ♦ Researched the properties, stability and antioxidant activity of peptide-anthocyanin (C6-C3G) nanocomposites ($70.82 \pm 12.41\text{nm}$)
- ♦ Adopted the circular dichroism spectroscopy and fluorescence quenching to elaborate the interaction between peptides and anthocyanins
- ♦ Demonstrated the static quenching by transforming the peptide C6 from a random coil structure to a β -sheet structure, and the fluorescence of the quenched tryptophan amino acids in the quenched peptides during the intermolecular interactions

PROJECT COMPETITION

Aug. 2021-Dec. 2021

7th National 'Internet +' Innovation & Entrepreneurship Contest

- ♦ Aimed to solve the dilemma of China's sericulture industry by uniting multiple resource platform and establishing a unique business service model to help sericulture transform and upgrade
- ♦ Served as the second person in charge of the team, interfacing with sericulture farmers and negotiating with local enterprises about the development of project model, the management of operational data, and human resource management
- ♦ Acquired Provincial 3rd Prize

PROJECT RESEARCH

Sep. 2024 Electrochemical Impedance Spectroscopy (EIS) Testing and Analysis of Brain-Implantable Chips at Dr. Otto's NPR Lab

- ♦ Focused on using the Autolab tool for EIS testing and analysis of chips to be implanted in mouse brains
- ♦ Analyzed impedance spectroscopy generated by Autolab to understand the electrical properties of the chips
- ♦ Learned how to use Autolab for impedance testing of chips, optimizing the performance for biomedical applications

May 2022 Green Preparation and Activity Research of Nano-Silver from 401 Strains of Endophytic Bacteria in Mulberry Leaves

- ♦ Aimed to seek green and efficient nanoparticle synthesis methods
- ♦ Implemented biosynthetic method with the cell-free fermentation broth of endophytic bacteria strain 401 in mulberry leaves to prepare silver nanoparticles

- ♦ Explored the effects of different pH conditions and time on the synthesis of nano-silver, and detected the antibacterial and antioxidant characteristics of nano-silver

Sep. 2021 Discussion on the Research Frontiers of Anthocyanins Targeting Breast Cancer Cells and Anti-tumor Cells and the Improvement of Anthocyanins Stability

- ♦ Reviewed the causes of breast cancer and the related therapeutic effects
- ♦ Researched the development and bottleneck of protein-enhanced anthocyanin stability
- ♦ Proposed the mechanism regarding the use of small molecular peptides with simple structure to improve the stability of anthocyanins

Dec. 2021 Design of Benzene-Chlorobenzene Mixed Liquor Floating Valve Distillation Column

- ♦ Calculated the process conditions of equipment
- ♦ Launched physical mechanics calculation of tray flow
- ♦ Designed the structure and prepared the auxiliary equipment of plate tower

Mar. 2022 Construction of Bombyx mori baculovirus carrying Ebola virus glycoprotein

- ♦ Aimed to integrate intact GP1, 2 on the recombinant viral envelope
- ♦ Inserted the GFP gene (under the P10 promoter) and GP gene (under the GP64 promoter) on the pFastBacDual vector
- ♦ Identified the correct bacmid for transfection of BmN cells
- ♦ Utilized Western Blot to detect GP gene expression, and used immunofluorescence to determine whether GP protein was localized to the cell membrane and whether GP was integrated into BV

PATENTS

Apr. 2022 Heterogeneous Telomere Resource Development and Regulation Platform

- ♦ Established a program that can easily simulate, develop, control and modify the various telomere resources input

EXTRACRRICULUM ACTIVITIES

Oct. 2021 - Oct. 2022 Student Union of Jiangsu University of Science and Technology

- ♦ Served as President, responsible for the overall work of the student union, supervising the operation of different departments, and guiding the activities undertaken by different departments
- ♦ Leading to hold two university-level activities and more than 20 school-level activities

COMPUTER SKILLS

- ♦ Skilled use of excel, word, ppt.
- ♦ Understand and use R markdown, Python, Matlab data processing tools

Honors & Awards:

- ♦ Received a scholarship from the School of Biomedical Engineering, 08/2023
- ♦ Merit Student, awarded by Jiangsu University of Science and Technology, 09/2022
- ♦ The 3rd Scholarship, awarded by Jiangsu University of Science and Technology, 09/2022
- ♦ Provincial 3rd Prize, awarded by 7th Jiangsu Province 'Internet +' Innovation & Entrepreneurship Contest, 11/2021
- ♦ National 3rd Prize, awarded by China Undergraduate Life Science Contest, 09/2021
- ♦ Golden Prize, awarded by 'Danyang Cup' Biological Innovation & Entrepreneurship Contest, 12/2021

Experimental Skills:

- ♦ Understand how to use Otto lab for EIS impedance testing.
- ♦ Understand how to perform nerve segment cleaning. Skilled in ultra clean bench operation.
- ♦ Proficient in magnetic mixer, fermentor, liquid nitrogen tank, chromatograph, DNA sequence, etc.