WU Haoyu

Tel: +86-18782203539 E-mail: why1625@zju.edu.cn
Add: No. 866, Yuhangtang Road, Zhejiang University, Xihu District, Hangzhou, Zhejiang, China

EDUCATION BACKGROUND

B.S in Applied Biological Science, Zhejiang University (ZJU) 09/2017-06/2021

Chu Kochen Honors College

GPA: 3.85/4

STANDARDIZED TESTS

TOEFL: 107 (R28+L29+S26+W24)

GRE: 323 (V155+Q168) +AW3.0

ACADEMIC EXPERIENCES

Study of the Molecular Mechanism of ROS1a Gene on Regulating Rice Characters

Team leader 03/2019-Now

- Screened and determined the mutation type of ROS1a gene with PCR (Polymerase Chain Reaction).
- Cultured rice and observed the phenotypes of the grain including length of grain, starch content, protein content, the thickness of aleurone layer etc.
- Analyzed transcriptome data of rice endosperm on after 15-day anthesis including differential expression of gene, construction of co-expression network, variable cutting, etc.
- Analyzed gene methylation of whole genome data and built the metabolic channels based on the joint analysis of transcriptome and methylation group.
- Constructed CRISPR-Cas9 knockout vector and tested the validation of methylation level using DNA methylation Kit.
- Results were to be submitted to BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS (IF = 2.95).
- Results were also to be submitted to PLANT BIOTECHNOLOGY JOURNAL (IF = 8.15).

Prediction of insect invasion based on machine learning

Team leader 05/2019-06/2020

- Collected the genomic data of non-invasive insects and tested the data through relevant literature.
- Conducted the comparative genomics analysis in the aspects of sequence acquisition, phylogenetic tree construction, gene family amplification and contraction analysis, homologous gene statistics, MCScanX collinearity analysis.
- Built the classifier according to the machine learning algorithm.
- Verified the accuracy based on the test set.

Metabolomic analysis of potential multi-toxicity induced by 3,5,6-trichloro-2-pyridinol in orally exposed mice

Team leader 05/2019-Now

- Conducted partial least-squares discriminant analysis (PLS-DA) and orthogonal PLS-DA (OPLS-DA) analysis the NMR metabolomics data of control group mice and TCP-treated group mice.
- Identified metabolites from NMR data based using HMDB database.
- Performed metabolites annotation and function enrichment analysis using MetaboAnalyst.

WU Haoyu

Tel: +86-18782203539 E-mail: why1625@zju.edu.cn
Add: No. 866, Yuhangtang Road, Zhejiang University, Xihu District, Hangzhou, Zhejiang, China

Study on the Function of SPL2 Gene in Rice

Team leader 06/2019-Now

- Constructed the CRISPR-CAS9 knockout vector of SPL2 gene.
- Cultured rice and observed the phenotypes of the grain.
- Screened and identified the mutation types of SPL2 gene.

COMPETITIONS

SensUS, the international student competition on molecular biosensors 10/2019-Now

Description: Design an integrated and high precision sensor for measuring the concentration of valproate in human plasma quickly.

- Prepared the specific molecular imprinting membrane of VPA (Valproic Acid).
- Conducted the design, preparation and performance of the organic electrochemical transistors (OECT) based on the semiconductor detector.
- Designed the circuit of the sensor and focused on the sensor interface program design on the basis of 51 SCM
- Wrote the mobile Application and built sever.

The design competition of the Central Control Cup Robot in Zhejiang University 05/2019

Description: Design a robot with the image recognition, path planning and grabbing functions to make it win in the shopping competition.

- Designed the general structure of the robot.
- Completed the programming design and wrote the program by using Arduino.

Energy-saving and emission-reduction competition held by Zhejiang University 05/2019

Description: Designed the automatic classification garbage can.

Awarded: Third Prize

- Investigated social needs for project design with Internet plus applied.
- Participated in the design of the intelligent garbage can and realized the automatic classification functions.

"The Challenge Cup", National Academic Competition for college students

Description: the application of machine learning and operational research in the position arrangement of volleyball.

- Collected and preprocessed the data and participated in algorithm design.
- Analyzed the players' competitive ability as well as the arraying on the field using machine learning and operational research method.

EXTRACURRICULAR ACTIVITIES

Social Practice of Investigating the Current Situation of Agriculture in China 07/2018

- Severed as a coordinator, contacting with several the universities for the following activities.
- Participated in itinerary planning, activities organization and, research material collection and summary, social practice project approval and defense, and follow-up publicity.

Teaching assistant at CHUKOCHEN honored College

- Assisted the professor to prepare the Academic English Writing class.
- Worked as the coordinator between students and the teacher.

WU Haoyu

Tel: +86-18782203539 E-mail: why1625@zju.edu.cn
Add: No. 866, Yuhangtang Road, Zhejiang University, Xihu District, Hangzhou, Zhejiang, China

HONORS AND AWARDS

Zhejiang University Second Class Scholarship	11/2019
CHUKOCHEN Honored College Outstanding Scholarship of Zhejiang University	11/2019
Participate Central Control Cup Robot Design Competition	05/2019
Second Round Challenge Cup in Machine and Control	05/2019
3st Prize, Volleyball Competition of University Alliance	04/2019
1st Prize, Volleyball Competition in Hangzhou	03/2019
3st Prize, Energy Saving and Emission Reduction Design Competition	03/2019
3st Prize, College English Speech Competition	06/2018