

Pei-Hsin Wang

RESEARCH INTERESTS

pollutant degradation by microorganisms, nitrogen removal, fate of contamination in water and soil

EDUCATION

University of Washington

PhD in Civil and Environmental engineering Sept. 2022-present

National Cheng Kung University (NCKU)

MS in Environmental engineering Sept. 2018-June. 2020

BS in Environmental Engineering Sept. 2013-June. 2018

Double major in Physics

HONORS & AWARDS

Academic Excellence Award Fall 2013, Spring 2014

- Awarded for academic excellence

Honorable Mention 2020

- Awarded by the Chinese Institute of Environmental Engineering

A.S.E. Scholarship 2020

- Awarded by the ASE (Advanced Semiconductor Engineering) Cultural and Educational Foundation

RESEARCH EXPERIENCE

Environmental Biotechnology Research Laboratory, NCKU 2016-2022

Project: Evaluation of COD removal under different chloride concentrations of petrochemical wastewater 2021-2022

Operating a continuous stirred tank reactor to remove COD in petrochemical wastewater, and evaluating COD removal rate under different concentrations of chloride ion. The relation of chloride ion with bulking by SVI is also evaluated.

Project: Evaluation of Nitrite/Nitrate Dependent Anaerobic Methane Oxidation (N-DAMO) Microorganisms for nitrate removal in high conductivity industrial wastewater 2019-2020

Enriched N-DAMO microorganisms by the anaerobic fluidized bed membrane (AFMBR) with industrial wastewater. Nitrate loading rate was adjusted to achieve the maximum nitrate removal of the AFMBR. Sludges were taken out from the AFMBR to conduct the batches for analyzing different factors in industrial wastewater which might cause adverse effects to denitrifiers in the AFMBR.

Project: Water quality analysis of Yanshuei River 2016-2017

Took sample at Yanshuei River, and analyzed nitrate, nitrite, ammonia, coliform, and heterotrophic bacteria in the Yanshei river

Project: The study of carbon dioxide utilization and acetate production by Acetobacterium woodii 2016-2017

Learned how to operate a bioreactor, and analyzed gas component of bioreactor by GC-TCD.

CONFERENCE POSTER

“Evaluation of Nitrite/Nitrate Dependent Anaerobic Methane Oxidation (N-DAMO) Microorganisms for nitrate removal in high conductivity industrial wastewater.” The Chinese Institute of Environmental Engineering, Taoyuan, Taiwan, 2020

“Evaluation of Nitrite/Nitrate Dependent Anaerobic Methane Oxidation (N-DAMO) Microorganisms for nitrate removal in high conductivity industrial wastewater.” International Symposium on Chemical-Environmental-Biomedical Technology, Nantou, Taiwan, 2019

“The study of carbon dioxide utilization and acetate production by Acetobacterium woodii ” The Chinese Institute of Environmental Engineering, Tainan, Taiwan, 2016

WORKING EXPERIENCE

WaterPark Environment Corporation, Hsinchu, Taiwan

Internship

Summer, 2015

- Conducting water quality experiment

SKILLS

Analysis: Water quality analysis (SS/VSS, organic carbon, nitrogen, phosphorus, membrane filter of total coliform and heterotrophic bacteria), Protein extraction and concentration detection, GC-TCD analyzing gas component

Bio: Molecular biology (DNA extraction and purification, qPCR, PCR), Microscopic examination, Bioreactor operation (anaerobic fluidized membrane bioreactor, continuous stirred tank reactor)