MEI SHUET KONG (MICHELLE)

Marine Biologist

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SUMMARY

Driven Marine Biologist with a strong foundation in marine research, environmental monitoring, and data-driven analysis. Skilled in **underwater field surveys, water quality assessments, biodiversity studies (population genetics), and data analytics**. Proven ability to generate insightful environmental assessments using statistical tools and effectively communicate findings to stakeholders. Committed to leveraging scientific data to drive meaningful impact in **marine conservation** and sustainability.

SKILL

Technical & Analytical	Data analysis (R, Excel, Power BI)	Spatial mapping (QGIS)	Bioinformatics	AI proficiency
Research & Fieldwork	UVC surveys	Coral reef fishes ID	Field sampling	Data management
Scientific Communication	Scientific paper writing	Research presentation	Public science outreach
Leadership & Collaboration	Project planning	Problem-solving	Leadership	Teamwork	Time management

WORK EXPERIENCE

Environmental Engineer (Water Resources)

SGS | Kaohsiung, Taiwan

📅 04/2024 - Present

Project: Taiwan Coral Reef Areas Water Quality Survey, 2025
- **Developed and proposed** a comprehensive **water quality survey plan** to assess coral reef health and wastewater discharge impacts around Liuqiu Island, Taiwan.
- **Led site selection efforts**, evaluating potential survey locations and overcoming challenges related to **site accessibility and ecological significance**.
- **Coordinated** a multidisciplinary team, defining responsibilities and setting a clear timeline for project activities.

Project: Taiwan Marine Aquaculture Areas Water Quality Survey, 2024
- **Executed** a large-scale water quality assessment across **23 aquaculture sites** from Chiayi to Penghu, Taiwan, analyzing both **coastal and offshore** environments.
- **Conducted geospatial mapping** of study areas using **QGIS** to visualize habitat distributions and survey routes.

- **Collected and examined** surface and bottom water samples for **heavy metals, nutrients, microorganisms, PFAS, and other key indicators** to assess environmental health.
- **Performed in-depth data analysis** using **Python for correlation analysis** and **PAST software for Principal Component Analysis (PCA)** to interpret environmental patterns.
- **Analysed** regional differences, highlighting **elevated nutrient and lead levels** in specific areas like Changhua, Yunlin, and Penghu.
- **Compiled and presented** preliminary findings, providing actionable insights into **regional management strategies** and future environmental policies.

Project: Water Quality Testing Education Camp, 2024

- **Engaged** primary school students in hands-on activities to promote awareness of **water conservation and environmental protection**.
- **Delivered educational sessions**, explaining the importance of **water quality monitoring** and its impact on ecosystems and human health.
- **Demonstrated** scientific methods for **collecting, storing, and analyzing water samples**, including bacterial analysis.
- **Designed interactive learning materials** to simplify complex scientific concepts for young audiences.
- **Inspired environmental stewardship**, encouraging students to take an active role in protecting their local water sources.

Research Assistant (Marine Biology & Ecology)

Tunghai University | Taichung, Taiwan

📅 03/2023 – 03/2024

Project: Heping Harbor Coral Reef Fish survey, 2023

- **Led** year-long ecological surveys in coral hotspots, utilizing **underwater visual census methods** to assess fish populations across four distinct zones.
- **Collected and analyzed** seasonal data on **species richness, abundance, and biodiversity indices**, identifying dominant species and ecological patterns.
- **Performed statistical analyses** in **R**, including **iNEXT** for species diversity estimation and **two-way ANOVA** to compare seasonal and locational variations to uncover key ecological trends.
- **Captured underwater photography** of fish species, contributing to the creation of a **fish photo guidebook** to aid species identification and public education.
- **Authored** comprehensive scientific reports presenting survey findings, effectively communicating complex data and biodiversity insights.

EDUCATION

Master of Science in Marine Biology and Fisheries

Institute of Oceanography (Marine biology and fisheries), National Taiwan University, Taiwan (IO NTU)

📅 09/2020 - 02/2023 📍 Taipei, Taiwan

Project: Exploring Genetic Diversity and Population Structure of Sternula albifrons, 2021-2022

- **Analyzed** genetic diversity and population structure of *Sternula albifrons* using molecular techniques, including **mitochondrial DNA sequencing** and **double digest restriction-site associated DNA (ddRAD) sequencing.**
- **Applied** bioinformatics tools including **ClustalW, MEGA, RAxML, DnaSP, PopART, Arlequin, ipyrad, STRUCTURE** and statistical software (**R**) to process genetic data and interpret population dynamics.
- **Contributed** to a **published research paper** entitled 'Exploring genetic diversity and population structure of the Little Tern (*Sternula albifrons*) in Taiwan based on mtDNA and ddRAD sequencing data'.

Bachelor of Science

University of Malaysia Terengganu, Malaysia (UMT)

📅 09/2016 - 09/2019 📍 Terengganu, Malaysia

Project: Breeding Ecology of Sternula albifrons at Terengganu, Malaysia, 2018

- **Investigated** breeding success rates of *Sternula albifrons*, assessing **nest site selection, chick survival rates, and environmental factors** influencing reproductive outcomes.

CERTIFICATION & TRAINING

- Taiwan Scholarship Student Award (2022)
- Best Presenter Award (2019)
- Open Water SCUBA Diver

LANGUAGE

Mandarin
Native
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English
Proficient
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Malay
Proficient
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Cantonese
Proficient
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