MEI SHUET KONG (MICHELLE)

Marine Biologist | Environmental Project Manager | Data Analyst

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SUMMARY

Driven Marine Biologist with a strong foundation in marine research, environmental monitoring, and scientific data analysis. Skilled in **underwater field surveys, water quality assessments, genetics studies, and environmental impact reporting**. Proficient in AI-enhanced data visualization, statistical modelling (R), GIS mapping (QGIS), and public outreach. Adept at leading interdisciplinary teams to execute data-driven conservation and environmental monitoring projects. 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	**Underwater visual census| Coral reef fish identification | Population genetics**
Scientific Communication	**Scientific writing & publication | Research presentation | Public science outreach**
Leadership & Collaboration	**Project coordination | Team leadership | Teamwork | Time management**

WORK EXPERIENCE

Environmental Project Manager / Environmental Engineer (Marine Water Quality)

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.
- **Enhanced data visualization workflows** by implementing AI-powered tools, significantly improving efficiency and clarity over traditional Excel-based charting methods.
- **Automated** the **generation of visual data outputs** (e.g., bar charts, line graphs), reducing manual processing time and enabling faster, more insightful analysis of environmental survey data.

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.**
- **Collected and examined** surface and bottom water samples for **heavy metals, nutrients, microorganisms, PFAS, and other key indicators** to assess environmental health.
- **Performed data analysis** such as **Principal Component Analysis (PCA)** to interpret environmental patterns.
- **Compiled and presented** survey 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 **mitochondrial DNA sequencing** and **double digest restriction-site associated DNA (ddRAD) sequencing.**
- **Conducted DNA extraction**, **purification**, **PCR amplification**, and **gel electrophoresis** for mitochondrial and nuclear genetic analyses.
- **Utilized** bioinformatics and population genetics 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 Award, Office of Overseas and Mainland Chinese Student Affairs, National Taiwan University (2022)
- Best Presenter Award, Faculty of Science and Marine Environment, University of Malaysia Terengganu (2019)
- Open Water SCUBA Diver, RAID (2017)

LANGUAGE

Mandarin
Native

English
Proficient

Malay
Proficient

Cantonese
Proficient