The International Graduate Program of Marine Science and Technology

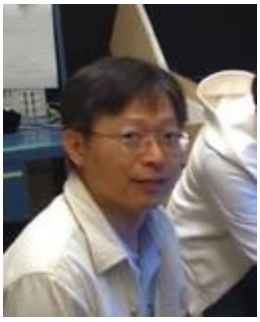
Division of Marine Biology & Ecology

College of Marine Sciences, National Sun Yat-sen University, Kaohsiung, TAIWAN

Graduate Student Recruitment Announcement

National Sun Yat-sen University (NSYSU) is one of the top research universities in Taiwan. It is located in the "Southern Capital City" Kaohsiung that provides convenient international access by Kaohsiung International Airport and plenty open space in the city. This seaport-based city with a population of 2.7 million and extended subways and bus routes, Kaohsiung, offers vibrant activities seasoned with cuisines from various regions of the world. The campus of NSYSU sits on where the mountain and the beach meet, one of the most beautiful sceneries in Taiwan. NSYSU comprises six colleges, including Liberal Arts, Social Sciences, Science, Engineering, Management and Marine Sciences. Based on the proximity from the airport, seaport and ocean, the College of Marine Sciences (CMS) was strategically designated as a key development by the Education Ministry of Taiwan to attract top scientists since its establishment in 1980's. More information of NSYSU can be found in the link https://www.nsysu.edu.tw/var/file/0/1000/img/920/NSYSUPRESENTATION2019web.pdf

To fulfill the mission of strengthening research and contributing to education in marine sciences in the global perspective, the CMS of NSYSU has established a new program, the International Graduate Program of Marine Science and Technology, in which all courses are taught in English. This program is consisted of five divisions, Marine Biology and Ecology, Marine Biogeochemistry, Marine Biomedicine and Natural Products, Marine Affairs, and Marine Engineering and Technology. The number of faculty members in this program is close to 60, all have obtained Ph.D. degree and most with postdoctoral research experience from top tier research institutions in the world. Tuition waiver is offered to doctoral students and high percentage of master's students. Fellowship is available from either the university or each lab. The online application is directed through https://oia.nsysu.edu.tw/?Lang=en which is also free of charge. Students can choose to enroll in spring (Feb) or fall semester (Sep) that have different application deadlines. Below are the profiles of the faculty members in the Division of Marine Biology and Ecology. We invite you to join us for the challenging and exciting scientific voyage. For more information, please email Dr. Nathan Chen at nathanc@mail.nsysu.edu.tw .



Dr. CHEN, Ching-Nen Nathan
Professor (Ph.D., National Taiwan University and Washington University in St. Louis, a sandwich program)
E-mail：nathanc@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5106
Expertise: Biochemistry, Molecular Genetics, Plant Physiology, Molecular Cell Biology, Phycology

Research interests: Thermotolerance of coral symbiotic microalgae, biodiversity and applications of tropical and thermotolerant microalgae; regulation of lipid and carotenoids biosynthesis in microalgae; seagrass physiology and ecology

Selected publications: (up to 5 papers)

1. Chia-Sheng Chiu, Pai-Ho Chiu, Tze Ching Yong, Hsin-Pei Tsai, Keryea Soong, Hsiang-En Huang, and **Ching-Nen Nathan Chen** (corresponding) (2020). Mechanisms protect airborne green microalgae during long distance dispersal. Scientific Reports 10:13984 https://doi.org/10.1038/s41598-020-71004-y
2. Tze Ching Yong, Pai-Ho Chiu, Chi-Hui Chen, Chun-Hung Hung and **Ching-Nen Nathan Chen** (corresponding) (2020). Disruption of thin- and thick-wall microalgae using high pressure gases: Effects of gas species, pressure and treatment duration on the extraction of proteins and carotenoids. Journal of Bioscience and Bioengineering 129: 502-507.
3. Tze Ching Yong, Chia-Shen Chiu and **Ching-Nen Nathan Chen** (corresponding) (2019). Optimization of a simple, accurate and low cost method for starch quantification in green microalgae. Botanical Studies 60:25-30
4. Pai-Ho Chiu, Keryea Soong**, Ching-Nen Nathan Chen** (corresponding) (2016). Cultivation of two thermotolerant microalgae under tropical conditions: Influences of carbon sources and light duration on biomass and lutein productivity in four seasons. Bioresource Technology 212:190-198.
5. Wen-Chi Chang, Han-Qin Zheng, **Ching-Nen Nathan Chen** (corresponding) (2016). Comparative transcriptome analysis reveals a potential photosynthate partitioning between lipid and starch biosynthesis pathways in green microalgae. Algal Research 16: 54-62.

Dr. CHEN, Meng-Hsien
Professor (Ph.D., King's College, London)
E-mail：mhchen@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5028
Expertise: Aquatic Ecotoxicology, Fish Ecology and Biology, Marine Ecology

Research interests: Heavy metal pollution, dolphin & tuna ecology, ecology of trawling organisms

Selected publications: (up to 5 papers)

1. **Chen, Meng-Hsien**, Yu-Ting Lin, Chien-Cheng Lai, Lien-Siang Chou & Chiee-Young Chen (2020). Tissue concentrations of, Fe, Zn, Cu and Mn of four Taiwanese toothed. Marine Pollution Bulletin, 158(2020) 111094.
2. Chao, Ning Labbish, Chih-Wei Chang, **Meng-Hsien Chen**, Chang-Chang Guo, Bai-An Lin, You-Yu Liou, Kang-Ning Shen & Min Liu (2019). *Johnius taiwanensis*, a new species of Sciaenidae from the Taiwan Strait, with a key to *Johnius* species from Chinese waters. Zootaxa, 4651(2), 259-270.
3. Chen, Chiee-Young, Yan-Ting Chen, Kuo-Shu Chen, Chien-Chung Hsu, Li-Lian Liu, Hsu-Sen Chen & **Meng-Hsien Chen** (2018). Arsenic and five metal concentrations in the muscle tissue of bigeye tuna (*Thunnus obesus*) in the Atlantic and Indian Oceans. Marine Pollution Bulletin, 129(1), 186-193.
4. **Chen, Meng-Hsien**, Ming-Feng Zhuang, Lien-Siang Chou, Jean-Yi Liu, Chieh-Chih Shih & Chiee-Young Chen (2017). Tissue concentrations of four Taiwanese toothed cetaceans indicating the silver and cadmium pollution in the western Pacific Ocean. Marine Pollution Bulletin, 124(2), 993-1000.
5. Liu, Jean-Yi, Lien-Siang Chou & **Meng-Hsien Chen** (2015). Investigation of trophic level and niche partitioning of 7 cetacean species by stable isotopes, and cadmium and arsenic tissue concentrations in the western Pacific Ocean. Marine Pollution Bulletin, 93, 270-277.

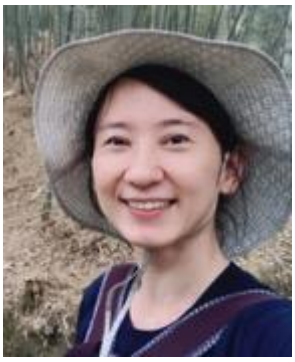
Dr. LEE, Tse-Min
Professor (Ph.D., National Taiwan University)

E-mail：tmlee@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5110
Expertise: Photosynthesis, Phycology, Plant Biochemistry and Physiology

Research interests: Algae physiology and molecular biology, algae bioenergy and biotechnology, macroalgae and seagrass ecophysiology

Selected publications: (up to 5 papers)

1. Eva YuHua Kuo, Meng-Siou Cai, and **Tse-Min Lee** (corresponding) (2020). Ascorbate peroxidase 4 plays a role in the tolerance of *Chlamydomonas reinhardtii* to photo-oxidative stress. Scientific Reports 10: 13287. https://doi.org/10.1038/s41598-020-70247-z
2. Eva YuHua Kuo, Hsueh-Ling Chang, Shu-Tseng Lin, and **Tse-Min Lee** (corresponding) (2020). High light-Induced nitric oxide production induces autophagy and cell death in *Chlamydomonas reinhardtii*. Frontiers in Plant Science 11: 772. https://doi.org/10.3389/fpls.2020.00772
3. Hsiang Hui Chou, Hsiang Yen Su, Xiang Di Song, Te Jin Chow, Chun Yen Chen, Jo Shu Chang and **Tse Min Lee** (corresponding) (2019). Isolation and characterization of *Chlorella* sp. mutants with enhanced thermo- and CO_2 tolerances for CO_2 sequestration and utilization of flue gases. Biotechnology for Biofuels 12: 251. https://doi.org/10.1186/s13068-019-1590-9
4. Hui-Ling Yeh, Tsen-Hung Lin, Chi-Chih Chen, Tian-Xing Cheng, Hsin-Yang Chang, and **Tse-Min Lee** (corresponding) (2019). Monodehydroascorbate reductase plays a role in the tolerance of *Chlamydomonas reinhardtii* to photooxidative stress. Plant and Cell Physiology 60: 2167–2179. https://doi.org/10.1093/pcp/pcz110
5. Tsen-Hung Lin, Meng-Yuan Rao, Hao-Wen Lu, Chih-Wen Chiou, Shu-Tseng Lin, Hung-Wei Chao, Zhao-Liang Zheng, Hao-Chien Chen, and **Tse-Min Lee** (corresponding) (2018). A role for glutathione reductase and glutathione in the tolerance of *Chlamydomonas reinhardtii* to photo-oxidative stress, Physiologia Plantarum 162: 35-48. https://doi.org/10.1111/ppl.12622



Dr. LIN, Hsiu-Chin
Associate Professor (Ph.D., University of California at San Diego)
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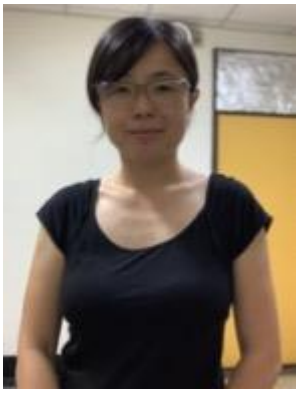
Expertise: Marine Biology, Molecular Evolution, Molecular Ecology

Research interests: Population genetics, phylogenetics and ecology of marine organisms, including sand-dwelling amphioxus, coral-inhabiting and deep-sea barnacles, and fish.

Selected publications: (up to 5 papers)

1. **Hsiu-Chin Lin**, Wei-Hao Li, Chi-Chih Chen, Tien-Hsing Cheng, Yu-Hsuan Lan, Ming-Der Huang, Wen-Ming Chen, Jo-Shu Chang and Hsin-Yang Chang (2020). Diverse enzymes with industrial applications in four thraustochytrid genera. Frontiers in Microbiology, 11:573907
2. **Hsiu-Chin Lin**, Chi-Chiu Cheang, Laure Cobari, Benny K. K. Chan (2020). Trans-Pacific genetic differentiation in the deep-water stalked barnacle *Scalpellum stearnsii* (Cirripedia: Thoracica: Scalpellidae). Deep Sea Research Part I: Oceanographic Research Papers, 164: 103359.
3. Hui-Yu Wang, Chieh A. Dong, **Hsiu-Chin Lin** (2017). DNA barcoding of fisheries catch to reveal composition and distribution of cutlassfishes along the Taiwan coast. Fisheries research, 187, 103-109.
4. **Hsiu-Chin Lin**, Gregory Kolbasov, Benny K. K. Chan (2016). Phylogenetic relationships of Darwin's "Mr Arthrobalanus": the burrowing barnacles (Cirripedia: Acrothoracica). *Molecular Phylogenetics and Evolution*, 100, 292-302.
5. **Hsiu-Chin Lin**, Jens T. Høeg, Yoichi Yusa, Benny K.K. Chan (2015). The origins and evolution of dwarf males and habitat use in thoracican barnacles. *Molecular Phylogenetics and Evolution*, 91, 1-11.



Dr. LIN, Mei-Fang
Assistant Professor (Ph.D., James Cook University)

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Expertise: Genomics, Transcriptomics, Evolution, Phylogenetics

Research interests: Early-branching animal evolution, cnidarian symbiosis and calcification, cnidarian molecular response to environmental changes.

Selected publications: (up to 5 papers)

1. **Lin M.-F.**, Takahashi S., Forêt S., Davy S., Miller D.J. (2019) Transcriptomic analyses highlight the likely metabolic consequences of colonization of a cnidarian by native or non-native *Symbiodinium* species. Biology Open 8: bio038281.
2. **Lin M.-F.**, Moya A., Ying H., Chen C.A., Cooke I., Ball E., Forêt S., Miller D. (2017) Analyses of corallimorpharian transcriptomes provide new perspectives on the evolution of calcification in the Scleractinia (corals). Genome Biology and Evolution 9: 150-160.
3. **Lin M.-F.**, Chou W.-H., Kitahara M.V., Chen C.A., Miller D.J., Forêt S. (2016) Corallimorpharians are not “naked corals”: insights into relationships between Scleractinia and Corallimorpharia from phylogenomic analyses. PeerJ 4:e2463.
4. **Lin M.-F.,** Kitahara M.V., Luo H., Tracey D., Geller J., Fukami H, Miller D.J., Chen C.A. (2014) Mitochondrial genome rearrangements in the Scleractinia / Corallimorpharia complex: implications for coral phylogeny. Genome Biology and Evolution 6:1086-1095.
5. Luzon K.S., **Lin M.-F.**, Ablan Lagman M.C.A., Licuanan W.R.Y., Chen C.A. (2017) Resurrecting a subgenus to genus: molecular phylogeny of *Euphyllia* and *Fimbriaphyllia* (order Scleractinia; family Euphyllidae; clade V). PeerJ 5:e4074. (Co-first author).

Dr. Lin, Yu-Jia (Rion)
Assistant Professor (Ph.D., National Taiwan University)
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Phone：886-7-5252000 ext. 5106
Expertise: Biostatistics, Quantitative biology, Sclerochronology.

Research interests:
Spatial-temporal changes in the community compositions, life history traits of the bony fishes, assessment of natural resources exploitation, and any other fields related to statistics.

Selected publications: (up to 5 papers)

1. **Lin, Yu-Jia**., Roa-Ureta, R.H., Pulikkoden, A.R.K., Premlal, P., Nazeer, Z., Qurban, M.A. and Rabaoui, L. (2021). Essential fish habitats of demersal fish in the western Arabian Gulf. Marine Pollution Bulletin 173: p.113013.
2. **Lin, Yu-Jia**., Roa-Ureta, R.H., Basali, A.U., Alcaria, J.F.A., Lindo, R., Qurban, M.A., Prihartato, P.K., Qasem, A. and Rabaoui, L. (2021). Coarser taxonomic resolutions are informative in revealing fish community abundance trends for the world's warmest coral reefs. Coral Reefs 40:1741-1756.
3. **Lin, Yu-Jia.,** Rabaoui, L., Basali, A.U., Lopez, M., Lindo, R., Krishnakumar, P.K., Qurban, M.A., Prihartato, P.K., Cortes, D.L., Qasem, A., Al-Abdulkader, K., Roa-Ureta, R., (2021). Long-term ecological changes in fishes and macro-invertebrates in the world's warmest coral reefs. Science of The Total Environment 750(1), p.142254.
4. **Lin, Yu-Jia**., Qurban, M.A., Shen, K.N. and Chao, N.L. (2019). Delimitation of Tiger-tooth croaker *Otolithes* species (Teleostei: Sciaenidae) from the Western Arabian Gulf using an integrative approach, with a description of *Otolithes arabicus* sp. nov. Zoological Studies 58: 10.
5. **Lin, Yu-Jia**., Tzeng, W. N., Han, Y. S., Roa-Ureta, R. H. (2017). A stock assessment model for transit stock fisheries with explicit immigration and emigration dynamics: Application to upstream waves of glass eels. Fisheries Research 195: 130-140.

Dr. LIU, Li-Lian
Professor (Ph.D., Louisiana State University)
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Phone: 886-7-5252000 ext. 5108
Expertise: Marine molluscus biology, Marine benthic invertebrates and ecology

Research interests: Marine molluscus physiology and ecology, impacts of climate change on marine benthic invertebrates, marine pollution

Selected publications: (up to 5 papers)

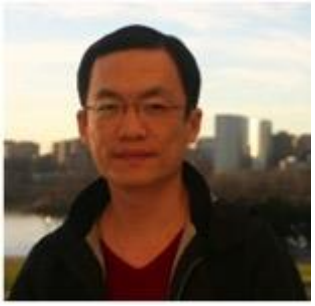
1. **Liu, Li-Lian**, Chen-Yun Hsieh, Meng-Ying Kuo, Chienhsun Chen, Yen-Hong Shau, Hon-Kit Lui, Chung-Shin Yuan and Chen-Tung Arthur Chen* (2020) Evidence for fossil fuel PM_1 accumulation in marine biota. Environmental Science & Technology, 54:4068-4078 (https://dx.doi.org/10.1021/acs.est.9b06976
2. Huang, H.T., D.N. Pao, T.Y. Liao*, **L.L. Liu*** (2020) Low genetic diversity of cultivated spotted hard clam (*Meretrix petechialis*) in Taiwan. Aquaculture Research, 51:2962–2972. https://doi.org/10.1111/are.14634
3. Kang, D.-R., K.S. Tan*, **L.-L. Liu*** (2018) Egg collar morphology and identity of nine species of Naticidae (Gastropoda) in Taiwan, with an assessment of their phylogenetic relationships. Journal of Molluscan Studies, 84:354-378.
4. Chen, Y. J., J. Y. Wu, C. T. A. Chen, and **L. L. Liu*** (2015) Effects of low pH stress on shell traits of the dove snail, *Anachis misera*, inhabiting shallow vent environments off Kueishan Islet, Taiwan. Biogeosciences, 12: 2631-2639.
5. Su, Y., J.-H. Hung, H. Kubo, **L.L. Liu*** (2014) *Tridacna noae* (Roding, 1798) – A valid giant clam species separated from *T. maxima* (Roding, 1798) by morphological and genetic data. The Raffles Bulletin of Zoology, 62:143-154.

Dr. LIU, Shang-Yin Vanson
Assistant Professor (Ph.D., National Taiwan University)
E-mail：syvliu@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5024
Lab home page: https://oceandiver6426.wixsite.com/website
Expertise: Population Genetics, Phylogeography

Research Interests: Coral reef ecology, invertebrate biology, biodiversity, speciation and phylogeography of marine organisms, reef biodiversity survey and eDNA

Selected publications: (up to 5 papers)

1. **Liu S. Y. V.**, Kumara, T. P., & Hsu, C. H. (2020). Genetic identification and hybridization in the seagrass genus *Halophila* (Hydrocharitaceae) in Sri Lankan waters. PeerJ, 8, e10027.
2. **Liu, S. Y. V.**, Hsin, Y. C., & Cheng, Y. R. (2020). Using particle tracking and genetic approaches to infer population connectivity in the deep-sea scleractinian coral *Deltocyathus magnificus* in the South China Sea. Deep Sea Research Part I: Oceanographic Research Papers, 103297.
3. **Liu, S. Y. V.**, Tuanmu, M. N., Rachmawati, R., Mahardika, G. N., & Barber, P. H. (2019). Integrating phylogeographic and ecological niche approaches to delimitating cryptic lineages in the blue–green damselfish (*Chromis viridis*). Peer J, 7, e7384.
4. **Liu S. Y. V.**, Frédérich, B., Lavoué, S., Chang, J., Erdmann, M. V., Mahardika, G. N., & Barber, P. H. (2018). Buccal venom gland associates with increased of diversification rate in the fang blenny fish *Meiacanthus* (Blenniidae; Teleostei). Molecular Phylogenetics and Evolution , 125: 138-146.
5. **Liu S. Y. V.**, Joung S. J., Yu C., Hsu H., Tsai W., & Liu K. M. (2018). Genetic diversity and connectivity of the megamouth shark (*Megachasma pelagios*). Peer J, 6:e4432.



Dr. LIAO, Te-Yu
Professor (Ph.D., Stockholm University)
E-mail：tyliao@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5107
Expertise: Systematics, Phylogeny, Population Genetics and Ecology

Research interests: In my lab, we reconstruct phylogeny and study taxonomy of fishes using both molecular and morphological characters, including morays, bitterling fishes, scorpion fishes and gobies. We also investigate food contents and eDNA-based fish fauna using NGS technology.

Selected publications: (up to 5 papers)

1. **Liao, Te-Yu**, Wen-Chien Huang, Yoshiyuki Iizuka, Ming-Tai Chou, Jen-Chieh Shiao*. 2020. Facultative amphidromy and pelagic larval duration plasticity of *Rhinogobius formosanus* (Teleostei: Gobioidei). Zookeys, 951: 91-107.
2. Li, F., R. Arai, **T.Y. Liao***. 2020. *Rhodeus flaviventris*, a new bitterling (Teleostei: Cyprinidae: Acheilognathinae) from China. Zootaxa, 4790 (2): 329-340.
3. Huang, Han-Ting, Chia-Ning Pao, **Te-Yu Liao***, Li-Lian Liu*. 2020. Low genetic diversity of cultivated spotted hard clam (*Meretrix petechialis*) in Taiwan. Aquaculture Research, 51: 2962-2972.
4. Pham The Thu, Wen-Chien Huang, Tak-Kei Chou, Nguyen Van Quan, Pham Van Chien, Fan Li, Kwang-Tsao Shao, **Te-Yu Liao***. 2019. DNA barcoding of coastal ray-finned fishes in Vietnam. PLoS ONE 14 (9):e0222631.
5. Huang,Wen-Chien, Jui-Tsung Chang, Chun Liao, Atsushi Tawa, Yoshiyuki Iizuka, **Te-Yu Liao*** and Jen-Chieh Shiao*. 2018. Pelagic larval duration, growth rate, and population genetic structure of the tidepool snake moray *Uropterygius micropterus* around the southern Ryukyu Islands, Taiwan, and the central Philippines. PeerJ, 6: e4741.

Dr. PORTER, Lindsay J.
Associate Professor (Ph.D., The University of Hong Kong)
E-mail: lindsay.jp@gmail.com
Phone: TBA
Expertise: Marine Mammals, Marine Ecology, Animal Behaviour, Conservation, Marine Policy, Marine Development and Environmental Impact Assessment.

Research interests: The ecology of marine mammals, their abundance and the environmental variables that drive their distribution. The development and application of robust analytical techniques to better understand threats to marine mammals. The role of Environmental Impact Assessments and mitigation protocols to protect marine mammals from anthropogenic activities. The role of international conventions and organisations in the management and conservation of marine mammal species and their habitat.

Selected publications: (up to 5 papers)

1. Borzée, Amaël; McNeely, Jeffrey; Magellan, Kit; Miller, Jennifer RB; **Porter, Lindsay**; Dutta, Trishna; Kadinjappalli, Krishnakumar P; Sharma, Sandeep; Shahabuddin, Ghazala; Aprilinayati, Fikty (2020). COVID-19 Highlights the Need for More Effective Wildlife Trade Legislation. Trends in Ecology & Evolution Elsevier
2. Pine, Matthew K; Wang, Ding; **Porter, Lindsay**; Wang, Kexiong (2018). Investigating the spatiotemporal variation of fish choruses to help identify important foraging habitat for Indo-Pacific humpback dolphins, *Sousa chinensis*. ICES Journal of Marine Science 75(2):510-518
3. **Porter, Lindsay**; Lai, Hong Yu (2017). Marine Mammals in Asian Societies; Trends in Consumption, Bait, and Traditional Use. Frontiers in Marine Science 4:47
4. Würsig, Bernd; Parsons, ECM; Piwetz, Sarah; **Porter, Lindsay** (2016). The Behavioural Ecology of Indo-Pacific Humpback Dolphins in Hong Kong. Advances in Marine Biology 73:65-90. Elsevier
5. Priyadarshana, Tilak; Randage, Sameera Madusanka; Alling, Abigail; Calderan, Susannah; Gordon, Jonathan; Leaper, Russell; **Porter, Lindsay** (2016). Distribution patterns of blue whale (*Balaenoptera musculus*) and shipping off southern Sri Lanka. Regional Studies in Marine Science 3:181-88.

Dr. SCHÖNBERG, Christine
Associate Professor (Ph.D., University of Oldenburg, Germany)
E-mail：schoenberg@mail.nsysu.edu.tw
Phone：886-7-5252000 ext. 5114
Expertise: Marine Ecology, sponges
Research interests: Benthic invertebrates, bioerosion, effects of environmental change, biodiversity

Selected publications: (up to 5 papers)

1. **Schönberg CHL** (in press) Sponge functional morphologies – a means to assess benthic communities without taxonomy, and a surrogate to infer environmental conditions. Ecological Indicators
2. Achlatis M, van der Zande RM, **Schönberg CHL**, Hoegh-Guldberg O, Dove S (2019) Photosynthesis by symbiotic sponges enhances their ability to erode calcium carbonate. Journal of Experimental Marine Biology and Ecology, 516, 140-149
3. Marlow J, **Schönberg CHL**, Davis SK, Haris A, Jompa J, Bell JJ (2019) Bioeroding sponge assemblages: the importance of substrate availability and sediment. Journal of the Marine Biological Association of the UK, 99, 343-358
4. Fang JKH, **Schönberg CHL**, Mello-Athayde MA, Hoegh-Guldberg, O, Dove S (2018) Bleaching and mortality of a photosynthetic bioeroding sponge under future carbon dioxide emission scenarios. Oecologia, 187, 25-35
5. **Schönberg CHL**, Fang JKH, Carreiro-Silva M, Tribollet A, Wisshak M (2017) Bioerosion: the other ocean acidification problem. ICES Journal of Marine Science 74, 895-925

Dr. TEW, Kwee Siong
Professor (Ph.D., Ohio State University)
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Phone：886-8-8825047
Expertise: Phycology, Aquatic Ecology, Aquaculture

Research interests: Effects of global climate change on microalgae, conservation and restoration of coral reef fish

Selected publications: (up to 5 papers)

1. **Tew K.S.***, Kuo J., Cheng J.O., Ko F.C., Meng P.J., Mayfield A.B. and Liu P.J.* 2021. Impacts of seagrass meadows on benthic microalgae and phytoplankton communities in a coral reef ecosystem under global warming scenario- a mesocosm study. *Frontiers in Marine Science*. https://doi.org/10.3389/fmars.2021.679683.
2. Kuo J., Chen C.Y, Han C.C., Ju Y.M. and **Tew K.S.*** 2021. Analyses of diet preference of larval orange-spotted grouper (*Epinephelus coioides*) grown under inorganic fertilization method using next-generation sequencing. *Aquaculture* doi.org/10.1016/j.aquaculture.2020.735916.
3. **Tew, K.S.***, Siao, Y.-J., Liu, P.-J., Lo, W.-T. and Meng, P.-J. 2017. Taiwanese marine microbenthic algal communities remain similar yet chlorophyll a concentrations rise in mesocosms with elevated CO_2 and temperature. *Marine Pollution Bulletin*. 124: 929-937. https://doi.org/10.1016/j.marpolbul.2017.06.050
4. **Tew, K.S.***, Jhange, Y.-S., Meng, P.-J. and Leu, M.-Y. 2017. Environmental factors influencing the proliferation of microscopic epiphytic algae on the giant kelp under aquarium conditions. *Journal of Applied Phycology*. 29(6): 2877-2886. Doi: 10.1007/s10811-017-1148-9.
5. **Tew, K.S.***, Chang, Y.-C., Meng, P.-J., Leu, M.-Y., and Glover, D. C. 2016. Towards sustainable exhibits- application of an inorganic fertilization method in coral reef fish larviculture in an aquarium. *Aquaculture Research* 47: 2748-2756. DOI: 10.1111/are.12725.

Dr. TSAI, Hsin-Yuan
Assistant Professor (Ph.D., University of Edinburgh)
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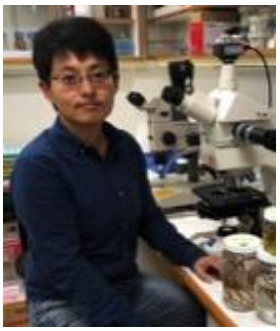
Phone：886-7-5252000 ext. 5031
Expertise: Genomics, Quantitative Genetics, Applied Bioinformatics

Research interests: Functional genetic variants discovery, linear mixed model to link the association between genetic variant phenotypes, genome-wide association study (GWAS), genomic prediction and solution estimation (breeding value estimation)

Selected publications: (up to 5 papers)

1. **Tsai, HsinYuan***, Janss, L.L., Andersen, J.R. et al. (2020) Genomic prediction and GWAS of yield, quality and disease-related traits in spring barley and winter wheat. Scientific Reports 10, 3347.
2. **Tsai, HsinYuan***, Cericola F, Edriss V, Andersen JR, Orabi J, et al. (2020) Use of multiple traits genomic prediction, genotype by environment interactions and spatial effect to improve prediction accuracy in yield data. Plos One 15(5): e0232665.
3. **Tsai, HsinYuan***, A Hamilton, AE Tinch, DR Guy, JE Bron, K Gharbi, MJ Stear, PW Ricardo, O Matika, SC Bishop and RD Houston. (2016). Genomic prediction of host resistance to sea lice in farmed Atlantic salmon populations. Genetics Selection Evolution.
4. Gembu Abe, Hua-Shih Lee, Marinane Chang, Jin-Shin Liu, **Tsai, HsinYuan** and Kinya Ota*. (2014). The origin of the bifurcated axial skeletal system in the twin-tail goldfish. Nature Communications, 5:3360.



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Research interests: During the transportation, organic matter in the fragmented rocks would be gradually decomposed by microbial activity and turned into CO_2 which would be released to the atmosphere. Therefore, both chemical weathering and degradation of organic matter are critical steps in global carbon cycle. My current research focuses on how microbial activities involved in the gradual degradation of organic matter from source to sink.

Selected publications: (up to 5 papers)

1. S. Mau, **T.-H. Tu**, M. Becker, C. Santos Ferreira, J.-N. Chen, L.-H. Lin, P.-L. Wang, S. Lin, G. Bohrmann. Methane Seeps and Independent Methane Plumes in the South China Sea Offshore Taiwan, Front. in Mar. Sci., 13 July 2020.
2. Imachi, H. E. Tasumi, Y. Takaki, T. Hoshino, F. Schubotz, S. Gan, **T.H. Tu**, Y. Saito, Y. Yamanaka, A. Ijiri, Y. Matsui, M. Miyazaki, Y. Morono, K. Takai, K.U. Hinrichs, F. Inagaki (2019). Cultivable microbial community in 2-km-deep, 20-million-year-old subseafloor coalbeds through ~1000 days anaerobic bioreactor cultivation. Scientific Reports, Volume 9, Article number: 2305.
3. Lin, Y.T.$^{+}$, **T.-H. Tu**$^{+}$, C.L. Wei, D. Rumble, L.H. Lin, P.L. Wang* (2018) Steep redox gradient and biogeochemical cycling driven by deeply sourced fluids and gases in a terrestrial mud volcano. FEMS Microbiol. Ecol. Vol. 94, p. 3796. + Equal contribution.
4. **Tu, T.H**., L.W. Wu, Y.S. Lin, H. Imachi, L.H. Lin, P.L. Wang* (2017) Microbial community composition and functional capacity in a terrestrial ferruginous, sulfate-depleted mud volcano. Front. Microbiol. 8, 2137, doi: 10.3389/fmicb.2017.02137.
5. **Tu, T.H**., C.F. Dai, M.S. Jeng (2015) Phylogeny and systematics of deep-sea precious corals (Anthozoa: Octocorallia: Coralliidae). Mol. Phylogenet. Evol. 84: 173-184, doi: 10.1016/j.ympev.2014.09.031.

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Research interests: Symbiotic interactions between cnidarian and Symbiodiniaceae algae, coral bleaching and thermal acclimatization/adaptation

Selected publications: (up to 5 papers)

1. Keshavmurthy S, HS Tee, K-W Kao, **J-T Wang***, CA Chen* (2020) Specificity trumps flexibility—location-based stable associations between Symbiodiniaceae genera and *Platygyra verweyi* (Scleractinia; Merulinidae). *PeerJ* 8: e8791.

2. **Wang J-T***, Wang Y-T, Keshavmurthy S, Meng P-J, Chen CA* (2019) The coral *Platygyra verweyi* exhibits local adaptation to long-term thermal stress through host-specific physiological and enzymatic response. Sci Rep 9: 13492.

3. Keshavmurthy S, Kuo C-Y, Huang Y-Y, Carballo-Bolaños R, Meng P-J*, **Wang J-T***, Chen CA* (2019) Coral reef resilience in Taiwan: Lessons from long-term ecological research on the coral reefs of Kenting National Park (Taiwan). *J Mar Sci Eng 7*: 388.

4. **Wang J-T***, S Keshavmurthy, T-Y Chu, CA Chen (2017) Diverse response in *Symbiodinium* types to menthol and DCMU treatment. PeerJ 5: e3843; DOI 10.7717/peerj.3843.

5. **Wang J-T***, C-M Hsu, C-Y Kuo, P-J Meng, S-J Kao, CA Chen* (2015) Physiological outperformance at the morphologically-transformed edge of the cyanobacteriosponge, *Terpios hoshinota* (Suberitidae: Hadromerida), when confronting opponent corals. PLoS ONE 10(6): e0131509.

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Selected publications: (up to 5 papers)

1. Yu Q, **Wang L-C**, Di Benigno S, Gray-Owen SD, Stein DC, Song W. Neisseria gonorrhoeae infects the heterogeneous epithelia of the human cervix using distinct mechanisms. PLoS Pathog (2019) 15(12):e1008136.
2. **Wang, L. C.**, Wagner, J., Capino, A., Nesbit, E., Song, W., Stein, D. C. Quantitative Examination of Antibiotic Susceptibility of Neisseria gonorrhoeae Aggregates Using ATP-utilization Commercial Assays and Live/Dead Staining. J. Vis. Exp. (144), e58978, doi:10.3791/58978 (2019).
3. **Wang L-C***, Litwin M, Sahiholnasab Z, Song W, Stein DC. Neisseria gonorrhoeae Aggregation Reduces Its Ceftriaxone Susceptibility. Antibiotics. (2018); 7(2):48
4. **Wang L.C.**, Yu Q, Stein, D. C., Song, W. Immunofluorescence Analysis of Human Endocervical Tissue Explants Infected with Neisseria gonorrhoeae. Bio-protocol (2018). 8(3): e2720. DOI: 10.21769/BioProtoc.2720.
5. **Wang L.C.**, Yu Q, Edwards V, Lin B, Qiu J, Turner JR, Stein, D. C., Song, W. Neisseria gonorrhoeae infects the human endocervix by activating non- muscle myosin II-mediated epithelial exfoliation. PLoS Pathog (2017) 13(4): e1006269.