

[Basic Information]

- Name: Sen-Lin Tang
- Current Position: Research Fellow
- Work Place: Biodiversity Research Center, Academia Sinica.
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[Educational Background]

- Doctor of Philosophy (1998—2002)
Department of Microbiology and Immunology, The University of Melbourne, Australia
- Master of Science (1991—1993)
Division of Microbiology and Immunology, National Taiwan University, Taiwan
- Bachelor of Science (1987—1991)
Division of Plant Pathology, College of Agriculture, National Chung-Hsing University

[Professional Profiles]

- **Extensive and Interdisciplinary Microbiology Training.** Trained across plant, animal, human, and environmental microbiology, with foundational experience in microbial ecology and community dynamics from undergraduate through postdoctoral stages.
- **Pioneering Metagenomics and Bioinformatics Research.** Early adopter of metagenomic approaches, collaborating with the University of Melbourne in 2002 on microbial data binning techniques, established Taiwan's first metagenomic lab in 2006 focused on environmental microbiomes, and established Taiwan Ocean Gene Database (TOG).
- **Leader in Coral Microbiome Research and Marine Ecosystem Studies.** Over 19 years of research on coral-associated microbes in Taiwan, including large-scale spatial-temporal surveys, beneficial bacteria isolation, and development of coral probiotics for reef restoration.
- **Broad Technical Expertise and Integrative Methodologies.** Combines computational biology, genomics, molecular biology, biochemistry, physiology, structural biology, and ecological surveys to investigate microbial interactions and functions.
- **Scientific Leadership and Community Engagement.** Actively promotes marine science as President of the Taiwanese Coral Reef Society and other leaders of societies, fostering domestic and international collaborations among academia, governments, NGOs, and the public.

[Professional Experience]

- Honorable Chief Professor, National Taiwan Ocean University (2026-present)
- Board member of Palau International Coral Research Center, (2023-present)
- President of Taiwan Society for Coral Reef (2021-present)
- Research Fellow (2017-present), Biodiversity Research Center, Academia Sinica, Taiwan
- Executive Director of Taiwan Ocean Marine Genome Center, National Ocean Taiwan University (2023-present)

[Invited speakers/Journal editors/ Reviewers/ Organizers in the recent years]

- Co-Editor-in-chief of Zoological Studies, (2012-2023)
- Senior Editor (2020-) and Associate Editor (2016-) of Microbes and Environment
- 期刊審者 Manuscript reviewers of more than 27 international journals, such as *Genome Biology*, *ISME J.*, *Environmental Microbiology*, *Frontiers in Microbiology*, *Microbiomes*, *iScience*, *mBio*, *mSystem*, *Nature Reviews Earth & Environment*, *Science Advances*, *Nature Microbiology*, *Nature*, *Science of the Total Environment*, *Nature Communication*. *PNAS*, etc.

[Publications]

(* corresponding authors; 163 in total, 151 research papers and 12 review papers or book chapters)

Research Papers (Selected papers in the past few years)

1. Po-Shun Chuanga, Wei-Chen Kaob, Zhao-Rong Yua, Tzu-Cheng Linc, Kai-Ning Shiha, Wen-Yuan Yanga, Yuen-Yi Leungac, Ming-Tsung Hsua, Tsai-Yen Chenb, Shinya Shikina*, **Sen-Lin Tang***, Ji-Yen Cheng*, 2025, Innovative Microfluidic Chips for Coral Cultivation: Enhanced Flexibility and Experimental Applications, *Methods in Ecology and Evolution*, <https://doi.org/10.1111/2041-210X.70009>
2. Che-Chih Chen, Qiao-Yi Xie, Po-Shun Chuang, Romain Darnajoux, Yi-Ying Chien, Wen-Hong Wang, Xuejiao Tian, Chiao-Hui Tu, Bi-Chang Chen, **Sen-Ling Tang**, and Ko-Hsuan Chen*, 2025, A thallus-forming N-fixing fungus-cyanobacterium symbiosis from subtropical forests. *Sci. Adv.* 11, eadt4093(2025). DOI:10.1126/sciadv.adt4093
3. Chuang P.S., Wang TH, Lu CY, Tandon K, Shikina S., **Tang SL***, 2024, Microbiome heterogeneity in tissues of the coral, *Fimbriaphyllia* (*Euphyllia*) *ancora*, *Environmental Microbiology Reports* 16 (4), e13310
4. Mason B., Hayward D. C, Myoya A., Cook I., Sorenson A., Brunner R., Andrade N., Huerlimann R., Bourne D., Schaeffer P., Grinblat M., Ravasi T., Ueda N., **Tang SL**, Ball EE., Miller DJ*, Microbiome manipulation by corals and other Cnidaria via quorum quenching, *Current Biology*, 2024. DOI:<https://doi.org/10.1016/j.cub.2024.05.073>.
5. Hirose Y, **Tang SL**, Yamashiro H., Arrangement and development of spicules in the coral-killing sponge, *Terpios hoshinota*, *Zoological Studies* 2024, 63
6. Chuang, P.-S., Yu, S.-P., Liu, P.-Y., Hsu, M.-T., Chiou, Y.-J., Lu, C.-Y., **Tang, S.-L.***, A gauge of coral physiology: re-examining temporal changes in *Endozoicomonas* abundance correlated with natural coral bleaching, 2024 *ISME Communication*, ycae001
7. Chan, Y.-F., Chen, Y.-H., Yu S.-P., Chen H.-J., Nozawa Y., and **Tang S.-L.***. Tang*, 2023, Reciprocal transplant experiment reveals multiple factors influencing changes in coral microbial communities across climate zones, *Science of The Total Environment*, 907: 167929
8. Chiou, Y.-J., Chan Y.-F., Yu S.-P., Lu C.-Y., Hsiao S. S.-Y., Chiang P.-W., Hsu T.-C., Liu P.-Y., Wada N., Lee Y., Jane W.-N., Lee D. -C., Huang Y. -W., **Tang S.-L.***, 2023, Similar but different: characterization of dddD gene mediated dimethylsulfoniopropionate metabolism among Coral-Associated *Endozoicomonas* dddD-gene mediated DMSP metabolism in *Endozoicomonas*, *Science Advances*, 9: doi=10.1126/sciadv.adk1910
9. Chuang PS, Yamada Y, Liu PY, **Tang SL***, Mitarai S*, Bacterial community shifts during polyp bailout induction in *Pocillopora* corals, 2023, *Microbiology Spectrum*, e00257-23
10. Wada† W, Iguchi A, Urabe Y, Yoshioka Y, Abe N, Takase K, Hayashi S, Kawanabe S, Sato Y, **Tang* S-L, Mano* N**, Microbial mat compositions and localization patterns explain the virulence of black band disease in corals. *NJP Biofilms and Microbiomes*, 2023, 9:15. <https://doi.org/10.1038/s41522-023-00381-9>
11. Wang CW, Michelle Wong JW, Yeh SS, Eric Hsieh Y, Tseng CH, Yang SH, **Tang SL***: Soil bacterial community may offer solutions for ginger cultivation. *Microbiology Spectrum* 2022, 13:e0180322. doi: 10.1128/spectrum.01803-22.
12. Wada N, Hsu MT, Tandon K, Hsiao SS, Chen HJ, Chen YH, Chiang PW, Yu SP, Lu CY, Chiou YJ,...**Tang S-L***: High-resolution spatial and genomic characterization of coral-associated microbial aggregates in the coral *Stylophora pistillata*. *Science Advances*, 2022, 8:eabo2431.
13. Tandon K, Chiou YJ, Yu SP, Hsieh HJ, Lu CY, Hsu MT, Chiang PW, Chen HJ, Wada N, **Tang SL***: Microbiome restructuring: dominant coral Bacterium *Endozoicomonas* species respond

differentially to environmental changes. *mSystems* 2022, 7:e0035922.

14. Hara S, Wada N, Hsiao SS, Zhang M, Bao Z, Iizuka Y, Lee DC, Sato S, **Tang SL***, Minamisawa K*: In vivo evidence of single (13)C and (15)N isotope-labeled methanotrophic nitrogen-fixing bacterial cells in rice roots. *mBio* 2022, 13:e0125522.
15. Chen Y-H, Chen H-J, Yang C-Y, Shiu J-H, Hoh DZ, Chiang P-W, Chow WS, Chen CA, Shih T-H, Lin S-H,...**Tang S-L***: Prevalence, complete genome, and metabolic potentials of a phylogenetically novel cyanobacterial symbiont in the coral-killing sponge, *Terpios hoshinota*. *Environmental Microbiology* 2022, n/a.
16. Chan YF, Chen CY, Lu CY, Tu YC, Tandon K, Shikina S, **Tang SL***: A first insight into the heat-induced changes in proteomic profiles of the coral symbiotic bacterium *Endozoicomonas montiporae*. *Frontiers in Marine Science* 2022, 9.
17. Tandon K, Wan M-T, Yang C-C, Yang S-H, Baatar B, Chiu C-Y, Tsai J-W, Liu W-C, Ng CS, **Tang S-L***: Aquatic microbial community is partially functionally redundant: Insights from an in situ reciprocal transplant experiment. *Science of The Total Environment* 2021, 786:147433.
18. Luo D, Wang X, Feng X, Tian M, Wang S, **Tang S-L**, Ang P, Yan A, Luo H:* Population differentiation of *Rhodobacteraceae* along with coral compartments. *The ISME Journal* 2021, 15:3286-3302.
19. Chen Y-H, Yang S-H, Tandon K, Lu C-Y, Chen H-J, Shih C-J, **Tang S-L***: Potential syntrophic relationship between coral-associated *Prosthecochloris* and its companion sulfate-reducing bacterium unveiled by genomic analysis. *Microbial genomics* 2021, 7:000574.
20. Wu W-K, Panyod S, Liu P-Y, Chen C-C, Kao H-L, Chuang H-L, Chen Y-H, Zou H-B, Kuo H-C, Kuo C-H,...**Tang S-L**,...et al: Characterization of TMAO productivity from carnitine challenge facilitates personalized nutrition and microbiome signatures discovery. *Microbiome* 2020, 8:162.
21. Wada N, Yuasa H, Kajitani R, Gotoh Y, Ogura Y, Yoshimura D, Toyoda A, **Tang S-L**, Higashimura Y, Sweatman H, et al: A ubiquitous subcuticular bacterial symbiont of a coral predator, the crown-of-thorns starfish, in the Indo-Pacific. *Microbiome* 2020, 8:123.
22. Tandon K, Lu C-Y, Chiang P-W, Wada N, Yang S-H, Chan Y-F, Chen P-Y, Chang H-Y, Chiou Y-J, Chou M-S,...**Tang S-L***: Comparative genomics: Dominant coral-bacterium *Endozoicomonas acroporae* metabolizes dimethylsulfoniopropionate (DMSP). *The ISME Journal* 2020, 14:1290-1303.
23. Yang S-H, Tandon K, Lu C-Y, Wada N, Shih C-J, Hsiao SS-Y, Jane W-N, Lee T-C, Yang C-M, Liu C-T,...**Tang S-L***: Metagenomic, phylogenetic, and functional characterization of predominant endolithic green sulfur bacteria in the coral *Isopora palifera*. *Microbiome* 2019, 7:3.
24. Jayasundara D, Herath D, Senanayake D, Saeed I, Yang C-Y, Sun Y, Chang BC, **Tang S-L***, Halgamuge SK: ENViT: inference of ecological characteristics of viruses from metagenomic data. *BMC Bioinformatics* 2019, 19:377.
25. Chen C-Y, **Tang S-L**, Chou S-CT: Taxonomy based performance metrics for evaluating taxonomic assignment methods. *BMC Bioinformatics* 2019, 20:310.