

林千翔

Chien-Hsiang Lin

Broadly trained marine paleontologist specializing in fish fossils, with a particular focus on using fish otoliths for taxonomic and ecological studies. My research primarily centers on deep-time marine fossils to explore their paleoecological, biogeographical, and evolutionary implications. Additionally, I investigate conservation paleobiology and understanding changes in fish communities through time using sea bottom materials as a study system. Throughout my academic career, I have collaborated extensively with various institutions, including the Royal Belgian Institute of Natural Sciences, Università degli Studi di Bari, Czech Academy of Sciences, Institut de Ciències del Mar, and Smithsonian Tropical Research Institute.

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Birthplace & Date:

Chiayi, Taiwan

April 12, 1986

Current position:

I am an assistant research fellow at the Biodiversity Research Center, Academia Sinica, Taipei, Taiwan. My goal is to enhance the paleontological research foundation in Taiwan and adjacent regions. My current research topics include:

- Global fish otoliths and their fossil records
- Conservation Paleobiology: historical shifts in fish community and life history traits
- Neogene marine fossils of West Pacific: diversity, paleoecology and biogeography
- Global Sciaenidae Conservation Network: otolith morphology, diversity, and fossil record
- 3D modeling and machine learning approaches in otoliths

Academic education:

Sep 2013–Jan 2017

- Ph.D., Institute of Earth Science, Università degli Studi di Bari, Italy
- Advisors: Dr. Angela Girone, Dr. Dirk Nolf
- Dissertation: Fish otolith assemblages in Recent sea bottoms and in ancient (Eocene and Miocene) fossiliferous deposits: a comparative study of taxonomy and paleoecology

Sep 2008–Jun 2010

- Master of Science, Institute of Zoology, College of Life Science, National Taiwan University, Taiwan (臺灣大學 動物學研究所)
- Advisor: Prof. Hsi-Jen Tao (陶錫珍)
- Thesis: Morphology of Otolith of Living and Fossil fishes from Taiwan (台灣現生與古魚類的耳石形態學研究)

Sep 2004–Jun 2008

- Bachelor of Science, Department of Life Science, National Cheng Kung University, Taiwan (成功大學 生命科學系)

Experience:**Apr 2020–**

Biodiversity Research Center, Academia Sinica, Taipei, Taiwan. Assistant Research Fellow
(中央研究院 生物多樣性研究中心 助研究員)

Sep 2021–

Department of Geosciences, National Taiwan University, Taiwan. Adjunct Assistant Professor
(國立臺灣大學 地質科學系 兼任助理教授)

Apr 2020–

Department of Life Science, National Taiwan Normal University, Taiwan. Jointly Appointed Assistant Professor
(國立臺灣師範大學 生命科學系 合聘助理教授)

Department of Life Science, Tunghai University, Taiwan. Jointly Appointed Assistant Professor
(東海大學 生命科學系 合聘助理教授)

Aug 2018–Apr 2020

Center for Ecology and Environment, Tunghai University, Taiwan. Assistant Researcher
(東海大學 生態與環境研究中心 專案助理研究員)

Nov 2017–Apr 2018

Smithsonian Tropical Research Institute, Panama. Postdoctoral Fellowship
(史密森熱帶研究所 博士後研究員)

Aug 2017–Oct 2017

National Museum of Marine Biology and Aquarium, Taiwan. Ministry of Science and Technology, Research Assistant
(國立海洋生物博物館 科技部計畫研究助理)

Mar 2017–Jun 2017

Smithsonian Tropical Research Institute, Panama. Short-Term Fellowship
(史密森熱帶研究所 短期研究員)

Aug 2011–Jul 2013

National Museum of Marine Biology and Aquarium, Taiwan. National Science Council (NSC) Research Assistant
(國立海洋生物博物館 國科會計畫研究助理)

Grants and awards:**Aug 2023–Jul 2026**

National Science and Technology Council, Taiwan, 112-2116-M-001-017-MY3
Spatiotemporal dynamics of diversity of paleoichthyofauna in the West Pacific
西太平洋古魚類多樣性的時空變遷 (TWD5,550,000)

Jun 2023–Apr 2024

Sepkoski Grant Award, Paleontological Society, USA
Unearthing the hidden gems: exploring the rich fish fossil record of Bulacan, Philippines to reconstruct the past biodiversity of the tropical West Pacific (\$1,000)

Jan 2023–Dec 2024

MOST-FNRS Bilateral Cooperation Programme, 112-2927-I-001-505
3DPhyloFish: Using 3D shape and machine learning approaches to understand the relationship between phylogeny, morphology and biodiversity in fish otoliths (TWD480,000)

Aug 2022–Jul 2023

Ministry of Science and Technology, Taiwan, 111-2116-M-001-033-
Historical shifts in fish community and life history traits(2/2)
魚類群聚構造與生活史特徵在地質尺度上的變遷(2/2) (TWD1,198,000)

Jan 2022–Dec 2023

Mobility Plus Project, Academia Sinica, Taiwan
Cenozoic fossil fishes from Taiwan and the Czech Republic – the once thrived ichthyofaunas (TWD700,000)

Jan 2022–Dec 2022

Stan Wood Award, Palaeontological Association Small Grant, UK, PA-SW202102
A diverse early Pleistocene shark teeth assemblage from southern Taiwan (£1,500)

Aug 2021–Jul 2022

Ministry of Science and Technology, Taiwan, 110-2116-M-001-009-
Historical shifts in fish community and life history traits(1/2)
魚類群聚構造與生活史特徵在地質尺度上的變遷(1/2) (TWD1,198,000)

Aug 2020–Jul 2021

Ministry of Science and Technology, Taiwan, 109-2116-M-001-022-
Significances of changes in the fish community composition in NW Pacific over the last 2 Ma,

with an evaluation of population structure of croakers (*Pisces, Sciaenidae*) (II): life history and isotope analyses

西北太平洋地區兩百萬年來魚類群落變遷之啟示及石首魚族群結構變化之評估 (II): 年齡成長及同位素分析 (TWD1,373,000)

Feb 2019–Dec 2020

Ministry of Science and Technology, Taiwan, 108-2116-M-029-001-MY2

Significances of changes in the fish community composition in NW Pacific over the last 2 Ma, with an evaluation of population structure of croakers (*Pisces, Sciaenidae*) 西北太平洋地區兩百萬年來魚類群落變遷之啟示及石首魚族群結構變化之評估 (TWD1,715,000)

Nov 2017–Apr 2018

Smithsonian Tropical Research Institute Postdoctoral Fellowship (\$18,000)

Mar 2017–Jun 2017

Smithsonian Tropical Research Institute Short-Term Fellowship (\$4,000)

Sep 2013–Sep 2016

Government scholarship for overseas study, Ph.D. program. Ministry of Education, Taiwan. (教育部公費留學考試) (\$144,000)

Publications:

(A) Journals (*Corresponding author, [§]Student/Lab member)

2024

Fan, Y.-C.[§], Su, Y., **Lin, C.-H.**, Chang, C.-W., Lin, H.-C.*, in press. *Polymixia melanostoma*, a new beardfish from the western Pacific (Teleostei: Polymixiiformes: Polymixiidae). *Zookeys*.

Mediodia, D.P.[§], ..., **Lin, C.-H.***, Fernando, A.G.*, in press. Paleoichthyology in the Philippines: A review of Cenozoic fish fossils with insights on its current status and future opportunities. *Geobios*.

Lin, C.-H.*, Steurbaut, E., Nolf, D., 2024. Early Eocene fish otoliths from the eastern and southern USA. *European Journal of Taxonomy* 935: 203–240.

DOI: 10.5852/ejt.2024.935.2557.

Přikryl, T.[#], **Lin, C.-H.***, Hsu, C.-H., Lee, S.-W., 2024. New acropomatiform fossils from the Upper Kueichulin Formation (Lower Pliocene), northern Taiwan. *Rivista Italiana di Paleontologia e Stratigrafia* 130(2): 211–229.

DOI: 10.54103/2039-4942/21186 (#Equal first author)

Mediodia, D.P.[§], Chang, C.-H., Ho, H.-C., Přikryl, T., **Lin, C.-H.***, 2024. A new cryptic species of splitfin fish from Taiwan with revision of the genus *Synagrops* (Acropomatiformes: Synagropidae). *Zoological Studies* 63: 20.

Kocsis, L.*, **Lin, C.-H.**, Bernard, E., Johari, A., 2024. Late Miocene teleost fish otoliths from Brunei Darussalam (Borneo) and their implications for palaeoecology and palaeoenvironmental conditions. *Historical Biology*. DOI: 10.1080/08912963.2023.2271489

Mitsui, S.*, **Lin, C.-H.**, Taru, H., Shibata, K., 2024. Fish otolith record reveals possible tropical-subtropical fish community in temperate Japan during the exceptionally warm Last Interglacial period. *Historical Biology* 36(5): 1007–1027.

DOI: 10.1080/08912963.2023.2201933

2023

Wu, S.-M.[§], Worthy, T.H., Chuang, C.-K., **Lin, C.-H.***, 2023. New Pleistocene bird fossils in Taiwan reveal unexpected seabirds in East Asia. *Acta Palaeontologica Polonica* 68 (4): 613–624. DOI: 10.4202/app.01091.2023

Ho, H.-C., Su, Y., **Lin, C.-H.**, Chu, T.-W.*, 2023. Record of the Amarsipa fish (Family Amarsipidae) from Pratas Island, South China Sea. *Zootaxa* 5380 (3): 289–294. DOI: 10.11646/zootaxa.5380.3.6

Ng, S.-L.[§], **Lin, C.-H.**, Liu, K.-M., Joung, S.-J.*. New records of three mesopelagic fish species from Southwestern Taiwan. *Thalassas*. DOI: 10.1007/s41208-023-00614-w

Lin, C.-H.*, Wu, S.-M.[§], Lin, C.-Y.[§], Chien, C.-W., 2023. Early Pliocene otolith assemblages from the outer-shelf environment reveal the establishment of mesopelagic fish fauna over 3 million years ago in southwestern Taiwan. *Swiss Journal of Palaeontology* 142: 23. DOI: 10.1186/s13358-023-00288-0

Su, Y., **Lin, C.-H.**, Ho, H.-C.*, 2023. Redescription of the hispidoberycid, *Hispidoberyx ambagiosus* Kotlyar, 1981 from Taiwan, with comments on its morphology (Beryciformes, Stephanoberycidae). *Zookeys* 1182: 19–34.

DOI: 10.3897/zookeys.1182.111296

Lin, C.-H.*, Wei, C.-L., Ho, S.L., Lo, L.*, 2023. Ocean temperature drove changes in the mesopelagic fish community at the edge of the Pacific Warm Pool over the past 460,000 years. *Science Advances* 9: 27, eadf0656. DOI: 10.1126/sciadv.adf0656

2022

Dillon, E.M.*, Pier, J.Q., Smith, J.A.*, Raja, N.B., Dimitrijević, D., Austin, E.L., Cybulski, J.D., De Entrambasaguas, J., Durham, S.R., C., Grether, C., Haldar, H., Kocáková, K., **Lin, C.-H.**, Mazzini, I., Mychajliw, A.M., Ollendorf, A.L., Pimiento, C., Regalado Fernandez, O.R., Smith, I.E., Dietl, G.P., 2022. What is conservation paleobiology? Tracking 20 years of research and development. *Frontiers in Ecology and Evolution* 10: 1031483.

DOI: 10.3389/fevo.2022.1031483

Lin, C.-Y.^{#,§}, **Lin, C.-H.^{#,*}**, Shimada, K., 2022. A previously overlooked, highly diverse early Pleistocene elasmobranch assemblage from southern Taiwan. *PeerJ* 10: e14190. (#Equal first author) DOI: 10.7717/peerj.14190

Ho, H.-C., **Lin, C.-H.***, 2022. Redescription of *Lophiodes lugubris* (Alcock 1894), with a largest record of *Lophiodes triradiatus* (Lloyd 1909) from the South China Sea (Lophiiformes: Lophiidae). *Zootaxa* 5189(1): 138–145. DOI: 10.11646/zootaxa.5189.1.16

Lin, C.-H.*, Ou, H.-Y.[§], Lin, C.-Y.[§], Chen, H.-M., 2022. First skeletal fossil record of the red seabream *Pagrus major* (Sparidae, Perciformes) from the Late Pleistocene of subtropical West Pacific, southern Taiwan. *Zoological Studies* 61: 10. DOI: 10.6620/ZS.2022.61-10

Lin, C.-H.*, Nolf, D., 2022. Middle and late Eocene fish otoliths from the eastern and southern USA. *European Journal of Taxonomy* 814(1): 1–122. DOI: 10.5852/ejt.2022.814.1745

Lin, C.-H.*, Wang, Y.-C.[§], Ribas-Deulofeu, L.[§], Chang, C.-W., Li, K.-T., 2022. Changes in marine resource consumption over the past 5000 years in southwestern Taiwan revealed by fish otoliths. *Journal of Archaeological Science: Reports* 42: 103400. DOI: 10.1016/j.jasrep.2022.103400

Lin, C.-H.*, Chien, C.-W., 2022. Late Miocene otoliths from northern Taiwan: insights into the rarely known Neogene coastal fish community of the subtropical northwest Pacific. *Historical Biology* 34(2): 361–382. DOI: 10.1080/08912963.2021.1916012

2021

Lin, J.-P.*, **Lin, C.-H.**, Chu, W.-C., Chang, C.-H., 2021. Introduction to the special issue on new advances on stratigraphy and paleontology in Taiwan. *Terrestrial, Atmospheric and Oceanic Sciences* 32: 1047–1050. DOI: 10.3319/TAO.2021.12.29.01

Ribas-Deulofeu, L.[§], Wang, Y.-C.[§], **Lin, C.-H.***, 2021. First records of Late Miocene *Dendrophyllia* de Blainville, 1830 (Scleractinia: Dendrophylliidae) in Taiwan. *Terrestrial, Atmospheric and Oceanic Sciences* 32: 1061–1068. DOI: 10.3319/TAO.2021.09.13.02

Kang, J.-C.[§], **Lin, C.-H.***, Chang, C.-H.*, 2021. Age and growth of *Palaeoloxodon huaihoensis* from Penghu Channel, Taiwan: significance of their age distribution based on fossils. *PeerJ* 9: e11236. DOI: 10.7717/peerj.11236

Mitsui, S.*, Taru, H., Ohe, F., **Lin, C.-H.**, Strüssmann, C.A., 2021. Fossil fish otoliths from the Chibanian Miyata Formation, Kanagawa Prefecture, Japan, with comments on the paleoenvironment. *Geobios* 64: 47–63. DOI: 10.1016/j.geobios.2020.11.003

Heard, J., Tung, W.-C., Pei, Y.-D., Lin, T.-H., **Lin, C.-H.**, Akamatsu, T., Wen, Colin K.-C.*, 2021. Coastal development threatens Datan area supporting greatest fish diversity at Taoyuan Algal Reef, northwestern Taiwan. *Aquatic Conservation: Marine and Freshwater Ecosystems* 31: 590–604. DOI: 10.1002/aqc.3477

Lin, C.-H.*, Chien, C.-W., Lee, S.-W., Chang, C.-W.*, 2021. Fossil fishes of Taiwan: a review and prospection. *Historical Biology* 33(9): 1362–1372. DOI: 10.1080/08912963.2019.1698563

2010–2020

Lin, C.-H., Lin, J.-S., Chen, K.-S., Chen, M.-H., Chen, C.-Y., Hsu, C.-C., Chang, C.-W.*, 2020. Feeding habits of bigeye tuna (*Thunnus obesus*) in the western Indian Ocean reveal a size-related shift in its fine-scale piscivorous diet. *Frontiers in Marine Science* 7: 582571. DOI: 10.3389/fmars.2020.582571

Lin, C.-H.*, De Gracia, B., Pierotti, M.E.R., Andrews, A.H., Griswold, K., O’Dea, A., 2019. Reconstructing reef fish communities using fish otoliths in coral reef sediments. *PLoS ONE* 14(6): e0218413. DOI: 10.1371/journal.pone.0218413

- Lin, C.-H.**, Wang, L.-C., Wang, C.-H., Chang, C.-W.*, 2018. Common early Pleistocene fish otoliths from Niubu in Chia-Yi County, southwestern Taiwan. *Journal of the National Taiwan Museum* 71(3): 47–68. DOI: 10.6532/JNTM.201809_71(3).04
- Lin, C.-H.***, Chiang, Y.-P., Tuset, V.M., Lombarte, A., Girone, A., 2018. Late Quaternary to Recent diversity of fish otoliths from the Red Sea, central Mediterranean, and NE Atlantic sea bottoms. *Geobios* 51: 335–358.
DOI: 10.1016/j.geobios.2018.06.002
- Lin, C.-H.***, Brzobohatý, R., Nolf, D., Girone, A., 2017. Tortonian teleost otoliths from northern Italy: taxonomic synthesis and stratigraphic significance. *European Journal of Taxonomy* 322: 1–44. DOI: 10.5852/ejt.2017.322
- Lin, C.-H.***, Nolf, D., Steurbaut, E., Girone, A., 2017. Fish otoliths from the Lutetian of the Aquitaine Basin (SW France), a breakthrough in the knowledge of the European Eocene ichthyofauna. *Journal of Systematic Palaeontology* 15(11): 879–907.
DOI: 10.1080/14772019.2016.1246112
- Lin, C.-H.***, Taviani, M., Angeletti, L., Girone, A., Nolf, D., 2017. Fish otoliths in superficial sediments of the Mediterranean Sea. *Palaeogeography, Palaeoclimatology, Palaeoecology* 471: 134–143. DOI: 10.1016/j.palaeo.2016.12.050
- Lin, C.-H.***, Girone, A., Nolf, D., 2016. Fish otolith assemblages from Recent NE Atlantic sea bottoms: A comparative study of palaeoecology. *Palaeogeography, Palaeoclimatology, Palaeoecology* 446: 98–107. DOI: 10.1016/j.palaeo.2016.01.022
- Lin, C.-H.***, Girone, A., Nolf, D., 2015. Tortonian fish otoliths from turbiditic deposits in Northern Italy: Taxonomic and stratigraphic significance. *Geobios* 48: 249–261.
DOI: 10.1016/j.geobios.2015.03.003
- Lin, C.-H.**, Li, K.-T.*, Chang, C.-W.*, 2013. Identification of *Pomadasy* species (Pisces, Haemulidae) from an archaeological midden site in Nankuanli East (Taiwan), based on otolith morphology. *The Raffles Bulletin of Zoology* 61(1): 293–302.
- Lin, C.-H.***, 2010. Study of Uranoscopidae otolith morphology from Da-si, Yi-lan County. *Journal of the National Taiwan Museum* 63(2): 17–29.

(B) Manuscripts in review/preparation

- Hsu, C.-H.‡, Lin, J.-P.*, **Lin, C.-H.***. *Schizaster* fossils (Echinoidea: Schizasteridae) from the Gutingkeng Formation (Early Pleistocene) of Taiwan and its paleoenvironmental and geological implications. In review.
- Pallacks, S.*, Ziveri, P., Jannke, H., **Lin, C.-H.**, Subhas, A., Galbraith, E., Kaboth-Bahr, S., Friedrich, O., Bahr, A., Koutsodendris, A., Pross, J., Norris, R. Ocean deoxygenation linked to ancient mesopelagic fish decline. In review.
- Lin, Y.-T.‡, **Lin, C.-H.***, Han, Y.-S.*. First record of the intermediate scabbardfish *Aphanopus intermedius* (Scombriformes: Trichiuridae) from South China Sea. In review.
- Smith, J.A.*, ..., **Lin, C.-H.**, ..., Kiessling, W. Big questions in paleontology: A community-driven project to motivate new insights about the history of life on Earth. In review.
- Li, M.-T., Shiao, J.-C., **Lin, C.-H.**, Wang, P.-L., Chung, M.-T.*. Age-based $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ values of otolith organic matter reveal the inter- and intraspecific trophic partition in marine fishes. In preparation.
- Lin, C.-H.***, ..., Shiao, J.-C.*. Evidence of reduced body size, fast growth, and shifting habitat in critically endangered croaker fish over geological timescale. In preparation.
- Osipova, D.S.‡, Lee, H., **Lin, C.-H.***. A review of family Veneridae (Mollusca: Bivalvia) from Szekou Formation, southern Taiwan. In preparation.
- Lin, C.-H.***, Tseng, Y.-C.‡, Ho, H.-C., Yang, S.-H., Chang, C.-H.*. Sea catfishes of Taiwan. In preparation.

(C) Selected conference papers (2022–2023)

- Lin, C.-H.***, 2023. Exploring the fish palaeobiodiversity of the Indo-West Pacific and its possible connection with the ancient European ichthyofaunas (Keynote Oral). XVII European Congress of Ichthyology, Pargue, 4–8 Sep.
- Lin, C.-H.***, Příkryl, T., Lee, S.-W., 2023. New acropomatid fossils (Acropomatidae) from the early Pliocene of upper Kueichulin Formation, northern Taiwan (Poster). XVII European Congress of Ichthyology, Pargue, 4–8 Sep.
- Lin, C.-H.***, 2023. Exploring the potential fish fossils in Taiwan to uncover the biodiversity and evolutionary history of the Indo-West Pacific region (Oral). 2nd Asian Palaeontological

Congress, Tokyo, Japan, 3–7 Aug.

Lin, C.-H.*, Wei, C.-L., Ho, S.L., Lo, L., 2022. Two temperature gradients regulate abundance and diversity of mesopelagic fish community in the Pacific Warm Pool over the past 460-kyr (Oral). 6th International Palaeontological Congress, Khon Kaen, Thailand, 7–11 Nov.

(D) Books, technical reports and popular science articles

林千翔, 2024。走進古代深海世界：在臺灣南部探尋神秘的魚類化石。漫步生態秘境 II, 53–58 頁。

林千翔, 2023。嘉義牛埔軟骨魚化石群聚 再現更新世大白鯊生態環境。環境資訊中心, 2月9日。 <https://e-info.org.tw/node/236002>

林千翔, 2022。出發！搭乘魚耳「石」光機——開箱中研院「海洋古生物實驗室」。中研院院訊特刊 06。 <https://newsletter.sinica.edu.tw/27517>

林千翔, 2021。從台灣魚類耳石化石研究 談海洋生物多樣性的變動與困境。環境資訊中心, 12月16日。 <https://e-info.org.tw/node/233022>

林千翔, 2021。台灣海洋化石與魚類化石的研究、回顧與展望。環境資訊中心, 12月16日。 <https://e-info.org.tw/node/233016>

林千翔, 2020。我能當分類學家嗎？會面臨什麼挑戰？科學月刊 (Science Monthly), 608期第50–53頁。

林千翔, 2019。沉積物中的時空膠囊——魚類耳石。科學月刊 (Science Monthly), 591期第46–51頁。

Lin, C.-H., 2016. Fish otolith assemblages in Recent sea bottoms and in ancient (Eocene and Miocene) fossiliferous deposits: a comparative study of taxonomy and paleoecology. Ph.D. dissertation. University of Bari, Italy, 164 pp.
DOI: 10.13140/RG.2.2.25003.85283

Lin, C.-H., Chang, C.-W., 2012. Otolith Atlas of Taiwan Fishes. National Museum of Marine Biology and Aquarium, Pingtung, 416 pp.

林千翔、吳祥堅, 2011。由生態保育觀點評述流域管理。玉山國家公園管理處, 31頁。

Lin, C.-H., 2010. Morphology of Otolith of Living and Fossil fishes from Taiwan. Master thesis. National Taiwan University, Taipei, 207 pp.

Academic memberships:

- The Linnean Society, United Kingdom
- The Palaeontological Association, United Kingdom
- Ichthyological Society of Taiwan, Taiwan
- Geological Society Located in Taipei, Taiwan
- Society for Wildlife and Nature, SWAN, Taiwan
- The Conservation Paleobiology Network, National Science Foundation, USA

Teaching interests and experiences

Marine Ecology, Ichthyology, Zoology, Vertebrate Comparative Anatomy, Systematics, Taxonomy, Paleontology, Paleoecology, Paleobiogeography, Biostratigraphy, Conservation Paleobiology

Sep 2021– (2 credits)

Fish diversity across time and space, Department of Geosciences, National Taiwan University

Sep 2020–Dec 2023 (one course)

Marine ecosystem, TIGP Program

Feb 2019–Jun 2019 (two courses)

Advanced ecology and evolution, Department of Life Science, Tunghai University
Comparative anatomy, Department of Life Science, Tunghai University

Sep 2008–Jun 2010 (four courses)

Teaching assistant (TA) of comparative anatomy, vertebrate paleontology, zoology, and seminar courses. Institute of Zoology, National Taiwan University

Student training and supervision:

- Diana S. Osipova, PhD student, 2023–present. Department of Life Science, National Taiwan Normal University (TIGP program).
- Dominique Mediodia, PhD student, 2022–present. Department of Life Science, National Taiwan Normal University (TIGP program).

- Tai-Yen Lin, master's student, 2021–2023. Institute of Oceanography, National Taiwan University. [Historical records of the large yellow croaker, *Larimichthys crocea*.](#)
- Ying-Cheng Tseng, master's student, 2020–2023. Institute of Fisheries Science, National Taiwan University. [Taxonomy of Ariidae \(sea catfish\) in Taiwan](#)
- Jia-Cihi Kang, undergraduate student, 2019–2021, Department of Life Science, Tunghai University. [Age determination in *Palaeoloxodon huaihoensis* from Penghu Channel, Taiwan](#)
- Hsin-Yueh Ou, undergraduate student, 2019–2021, Department of Life Science, Tunghai University. [Morphological variation in fossil and recent sparid teeth](#)
- Yi-Shiuan Dai, master's student, 2018–2020. Department of Life Science, Tunghai University. [Seasonal variations on diet of Eurasian otter \(*Lutra lutra*\) in Kinmen, Taiwan](#)
- Katie Griswold (Marine Science Department, Boston University), intern, 2018, Smithsonian Tropical Research Institute. [Automorph: an automatic system for measuring otolith morphometrics](#)

Popular coverage of research:

- **May 18, 2024** [以古鑑今：由深海化石一探氣候變遷如何影響魚類多樣性](#)，開放博物館，中央研究院數位文化中心
- **May 18, 2023** [魚類多樣性的時空變遷](#)，開放博物館，中央研究院數位文化中心
- **May 5, 2023** [穿越石光！魚耳石化石重現古代海洋](#)，發現科學，台視新聞 TTV NEWS
- **Nov 1, 2022** [Author Interview: A previously overlooked, highly diverse early Pleistocene elasmobranch assemblage from southern Taiwan](#) PeerJ Community
- **Mar 24, 2022** [5千年前「台南人」愛吃什麼魚？中研院來解答](#)，楊媛婷，自由時報
- **Mar 15, 2022** [解開古代魚類耳朵裡的「石頭」秘密](#)，寒波，中研院研之有物
- **Jul 8, 2020** [Taiwanese researcher rebuilds ancient ecology through fish fossils](#), Chris Chang, Taiwan News
- **May 11, 2018** [Redefining Pristine: Modern marine oxygen-deficiency research inspires search for fossil record](#) Sean Mattson, STRI
- **Feb 8, 2018** [Did coral reefs before humans have lower fish diversity?](#) Sean Mattson, STRI
- **Jan 24, 2013** [《記錄1004種》台灣魚類耳石圖鑑 種類世界最多](#)，蔡宗憲，自由時報

Services:

(A) Community outreach

26 Nov 2023 嘉義地區的魚類化石，嘉義市立博物館

23 Oct 2021 小小探險家-諸羅尋寶記，嘉義市立博物館

19 May 2019 揭開史前魚類的面紗—魚耳石，菜寮化石園區

Aug 2017–Oct 2017 Educational outreach lecturer for elementary school teachers, organized by science education program, National Museum of Marine Biology and Aquarium, Taiwan (恆春半島國小教師進修課程 海洋生物博物館科教組)

(B) Organized conference sessions

2023 *Neogene–Quaternary fossil record in the West Pacific* session in 4th Palaeontological Virtual Congress, **8–55 May**, co-organized with Jih-Pai Lin, Allan Gil S. Fernando, Tze Tshen Lim, László Kocsis

2021 *New advances on stratigraphy and paleontology in Taiwan* session in 3rd Palaeontological Virtual Congress, **1–15 Dec**, co-organized with Jih-Pai Lin

2018 *Morphology and Physiology* session in 6th International Otolith Symposium, **16–20 Apr** Keelung, Taiwan, co-organized with Chih-Wei Chang

(C) Editorial board/Academic referee

Managing editor: *Zoological Studies* (2024–now)

Members of the board of reviewers: *The Anatomical Record* (2024–now)

Research proposal reviews:

National Science and Technology Council (NSTC), Taiwan (2022–now)

Systematics Research Fund, The Linnean Society, United Kingdom (2024)

Marine Geology and Geophysics Program of the National Science Foundation, USA (2022)

Journal reviews: (2020–2024):

Environmental Biology of Fishes (2021), *Frontiers in Marine Science* (2021), *Journal of the Geological Society* (2022, 2023), *Netherlands Journal of Geosciences* (2023), *Palaeontologia Electronica* (2023), *PLoS ONE* (2022), *Scientific Reports* (2023), *Scottish Journal of Geology*

(2024), *Terrestrial, Atmospheric and Oceanic Sciences* (2021), *Zoological Journal of the Linnean Society* (2023), *Zoological Studies* (2018–now)

Journal guest editor:

Terrestrial, Atmospheric and Oceanic Sciences Journal (TAO), special issue "New advances on stratigraphy and paleontology in Taiwan"

Languages:

Chinese: Native; Japanese: Native; English: Comprehension, reading, writing, and speaking proficiency; Italian: Basic

Skills:

- Imaging: Scanning Electron Microscope (SEM) manipulation, specimen microphotography, 3D scanning
- Computers: Statistics (PAST), Digital graphics (Adobe Photoshop, CorelDRAW, SigmaPlot), Geometric morphometrics (tpsUtil, tpsDig, tpsRelw), Geographics (ArcGIS), Microsoft Office
- PADI open water diver