

國立東華大學教師個人基本資料表

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林家興

最高學歷/起迄：

Ph.D., Luton Institute of Research in Applied Natural Sciences, University of Bedfordshire, United Kingdom

Chiahsin Lin

現職/起迄：

2013-Present, Associate Researcher, National Museum of Marine Biology & Aquarium, Department of Planning; Research, Taiwan

2015-Present, Associate Professor, National Dong Hwa University, Institute of Marine Biotechnology, Taiwan

2010-2015, Assistant Professor, National Dong Hwa University, Institute of Marine Biotechnology, Taiwan

2014, Invited Visiting Researcher, Chulalongkorn University, Department of Marine Science, Thailand

2009-2013, Assistant Researcher, National Museum of Marine Biology & Aquarium, Department of Planning; Research, Taiwan

2012, Lecturer (in Aquaculture), Overseas Compatriot Affairs Commission

2010-Present, Reviewer of International Journals

2010-Present, Editorial board for Journal of Platak

2011, Lecturer (in Marine Education), Ministry of Education

2009, The Antarctica research expedition

2006-2008, Visiting Researcher, University of London, Department of Biology and Science, United Kingdom

2013-迄今, 國立海洋生物博物館副研究員

2010-迄今, 國立東華大學海洋生物科技研究所副教授

2014, 泰國 Chulalongkorn University 海洋科學系訪問研究員

2009-2013, 國立海洋生物博物館助理研究員

2009-迄今, Platak 海洋生物學刊主編

2012, 僑務委員會馬來西亞水產養殖輔導講師

2011, 教育部海洋知識系列演講講師

2009, 南極研究探堪

2006-2008, 英國倫敦大學生物科學系訪問學人

2001-2009, 國立海洋生物博物館研究助理



到任年份(東華)：20010 年 8 月

研究領域：低溫生物學(Cryobiology), 遺傳保種學(Genetic conservation), 分子生物學(Molecular biology), 珊瑚生殖生理(Coral reproduction and physiology)



研究成果

一、期刊論文：

(若期刊屬於 SCI、EI、SSCI、TSSCI、EconLit 或 A&HCI 等時，請註明)

1. V. Viyakarn, S. Chavanich, G. Chong, S. Tsai, **C. Lin*** (2017) Cryopreservation of sperm from the coral *Acropora humilis*. Cryobiology <https://doi.org/10.1016/j.cryobiol.2017.10.007> (In Press). (SCI)
2. S. Tsai, G. Chong, P.J. Meng, **C. Lin*** (2017) Sugars as supplemental cryoprotectants for marine organisms. Reviews in Aquaculture; doi:10.1111/raq.12195 (SCI)
3. G. Chong, F.W. Kuo, S. Tsai, **C. Lin*** (2017) Validation of reference genes for cryopreservation studies with the gorgonian coral endosymbiont *Symbiodinium*. Scientific Reports 7:39396; doi:10.1038/srep39396 (SCI)
4. G. Chong, S. Tsai, C. Lin* (2016) Cryopreservation and its molecular impacts on microorganisms. J. Fish. Soc. Taiwan, 43(4), 263-272
5. G. Chong, S. Tsai, C. Lin* (2016) Factors responsible for successful cryopreservation of algae. J. Fish. Soc. Taiwan, 43(3), 153-162
6. S. Tsai, W.C. Chang., **C. Lin*** (2016) Ultrastructural observation of oocytes of six types of stony corals. Tissue and Cell 48, 349–355 (SCI)
7. S. Tsai, V. Yang, **C. Lin*** (2016) Comparison of the cryo-tolerance of vitrified gorgonian oocytes. Scientific Reports 6, 23290; doi:10.1038/srep23290 (SCI)
8. G. Chong, S. Tsai, L.H. Wang, C.Y. Huang, **C. Lin*** (2016) Cryopreservation of the gorgonian endosymbiont *Symbiodinium*. Scientific Reports. 6, 18816; doi: 10.1038/srep18816. (SCI)
9. S. Tsai, W. Yen, S. Chavanich, V. Viyakarn, **C. Lin*** (2015). Development of cryopreservation techniques for gorgonian (*Junceella juncea*) oocytes through vitrification PLoS ONE doi: 10.1371/journal.pone.0123409. (SCI)
10. S. Tsai, P. Thongpooe, F.W. Kuo, **C. Lin*** (2015). Impacts of low temperature preservation on mitochondrial DNA copy number in oocytes of the hard coral *Echinopora* sp. Mitochondrial DNA doi: 10.3109/19401736.2015.1036254. (SCI)
11. P. Kuanui, S. Chavanich*, V. Viyakarn, M. Omori and **C. Lin** (2015). Effects of temperature and salinity on survival rate of cultured corals and photosynthetic efficiency of the zooxanthellae in coral tissues. Ocean Sci 50(2), 263-268 doi.org/10.1007/s12601-015-0023-3 (SCI)
12. L.H. Wang, **C Lin***, C.Y. Huang, S. Tsai* (2015) Studies on lipid content and composition in banded coral shrimp (*Stenopus hispidus*) embryos. J Crustacean Biol 35(5), 622-626 (SCI). * contributed equally as corresponding authors
13. S. Tsai, Y. Jhuang, E. Spikingsc, P.J. Sung, **C. Lin*** (2014) Ultrastructural observation on the oogenesis of gorgonian coral (*Junceella juncea*). Tissue Cell 46, 225-232 (SCI)
14. **C. Lin***, F.W. Kuo, S. Chavanich, V. Viyakarn (2014) Membrane lipid phase transition behavior of oocytes from three gorgonian corals in relation to chilling injury. PLoS ONE 9(3): e92812. doi:10.1371/journal.pone.0092812. (SCI)
15. S. Tsai, L.H. Wang, **C. Lin**. (2014) The chloroplast large subunit 23sDNA sequence of *Symbiodinium* fresh isolated from *Junceella fragilis*. NCBI. GenBank accession no. KP201138.
16. S. Tsai, V. Kuit, Z.G. Lin and **C. Lin*** (2014). Application of a functional marker for the effect of cryoprotectant agents on gorgonian coral (*Junceella juncea* and *J. fragilis*) sperm sacs. CryoLetters 35 (1), 1-7 (SCI)
17. S. Tsai, J.C. Chen, E. Spikings, J.J. Li and **C. Lin*** (2014). Degradation of mitochondrial DNA in cryoprotectant-treated hard coral (*Echinopora* spp.) oocytes. Mitochondrial DNA doi:10.3109/19401736.2013.855734 (SCI)
18. **C. Lin**, L.H. Wang, P.J. Meng, C.S. Chen and S. Tsai* (2013) Lipid content and composition of oocytes from five coral species: potential implications for future cryopreservation efforts. PloS ONE 8(2): e57823.

doi:10.1371/journal.pone.0057823 (SCI)

19. **C. Lin**, C.C Han and S. Tsai* (2013). Effect of thermal injury on embryos of banded coral shrimp (*Stenopus hispidus*) under hypothermal conditions. *Cryobiology* 66, 3-7 (SCI)
20. **C. Lin***, L.H. Wang, T.Y. Fan and F.W. Kuo (2012) lipid content and composition during the oocyte development of two gorgonian coral species (*Junceella juncea* and *Junceella fragilis*) in relation to low temperature preservation. *PloS ONE* 7(7): e38689. doi:10.1371/journal.pone.0038689 (SCI)
21. **C. Lin** and S. Tsai* (2012). The effect of chilling and cryoprotectants on hard coral (*Echinopora* spp.) oocytes during short-term low temperature preservation. *Theriogenology* 77, 1257-1261 (SCI)
22. S. Tsai and **C. Lin*** (2012). Development of an enzymatic method for individual separation of banded coral shrimp (*Stenopus hispidus*) embryos. *Aquacult. Res.* 43(10), 1509-1514 (SCI)
23. C. Lin, F.W. Kuo, T. Zhang and S. Tsai*. Gorgonian coral (*Junceella juncea* and *Junceella fragilis*) oocyte chilling sensitivity in the context of adenosine triphosphate response, in: *Alcohols—Advances in Research and Application: 2012 Edition*
24. S. Tsai and **C. Lin*** (2012). Advantages and applications of cryopreservation in fisheries science. *Braz. Arch. Biol. Technol.* 55(3), 425-433 (SCI)
25. **C. Lin**, F.W. Kuo, T. Zhang and S. Tsai* (2011). Gorgonian coral (*Junceella juncea* and *Junceella fragilis*) oocyte chilling sensitivity in the context of adenosine triphosphate response. *CryoLetters* 32(2)141-147(SCI)
26. S. Tsai, E. Spikings I.C. Haung and **C. Lin*** (2011) Study on the mitochondrial activity and membrane potential after exposing later stage oocytes of two gorgonian corals (*Junceella juncea* and *Junceella fragilis*) to cryoprotectants. *CryoLetters* 32(1)1-12 (SCI)
27. **C. Lin** and S. Tsai* (2011). The effect of cryopreservation on DNA damage, gene expression and protein abundance in vertebrate. *Ital. J. Anim. Sci.* 11, 119-122 (SCI)
28. S. Tsai, E. Spikings, F.W. Kuo and **C. Lin*** (2010). Use of an adenosine triphosphate assay, and simultaneous staining with fluorescein diacetate and propidium iodide, to evaluate the effects of cryoprotectants on hard coral (*Echinopora* sp.) oocytes. *Theriogenology* 73, 605-611 (SCI)
29. S. Tsai, W.C. Liu and **C. Lin*** (2010). An efficient approach for cryopreservation of the king grouper (*Epinephelus lanceolatus*) spermatozoa. *Platax* 7, 56-66.
30. S. Tsai, E. Spikings and **C. Lin*** (2010). Effects of the controlled slow cooling procedure on freezing parameters and ultrastructural morphology of Taiwan shoveljaw carp (*Varicorhinus barbatulus*) sperm. *Aquat. Living Resour.* 23, 119-124 (SCI)
31. S. Tsai and **C. Lin*** (2009). Effects of cryoprotectant on the embryos of banded coral shrimp (*Stenopus hispidus*), preliminary studies to establish freezing protocols. *CryoLetters* 30(5), 373-381 (SCI)
32. **C. Lin** and S. Tsai* (2009). Factors affecting cryopreservation of cells. *Platax* 6, 93-106
33. **C. Lin**, E. Spikings, T. Zhang and D.M. Rawson (2009) Effect of chilling and cryopreservation on expression of Pax genes in zebrafish (*Danio rerio*) embryo and blastomeres *Cryobiology* 59, 42-47 (SCI)
34. **C. Lin**, E. Spikings, T. Zhang and D.M. Rawson (2009) Housekeeping genes for cryopreservation studies on zebrafish embryos and blastomeres *Theriogenology* 71(7), 1147-55 (SCI)
35. **C. Lin**, T. Zhang and D.M. Rawson (2009) Cryopreservation of zebrafish (*Danio rerio*) blastomeres by controlled slow cooling. *CryoLetters* 30(2), 132-141 (SCI)
36. J.C.Chen and **C. Lin** (2001) Toxicity of copper sulfate for survival, growth, molting and feeding of juveniles of the tiger shrimp, *Penaeus Monodon* *Aquaculture* 192 55-65 (SCI)
37. **C. Lin** and J.C. Chen (2001) Hemolymph oxyhemocyanin and protein levels and acid-base balance in the tiger shrimp *Penaeus Monodon* exposed to copper sulfate *J. World Aquaculture Soc* 32, 335-341 (SCI)

二、研討會論文：

1. G. Chong, S. Tsai, P. J. Meng, C. Lin (2017) A strategy for coral conservation in response to the global warming and climate change: the Frozen Ark. 2017 Ocean Science Conference. May. Taiwan
2. Y.H Goh, S Tsai, L.H. Wang, C Lin (2016) Cryopreservation of oocytes of the gorgonian coral *Junceella fragilis* using a controlled, slow- freezing protocol. The 7th International symposium for marine biotechnology. September. Taiwan
3. C. Juri, S. Tsai, L.H. Wang, C. Lin (2016) Successful cryopreservation of a thermotolerant lineage of the coral reef dinoflagellate *Symbiodinium*. The 7th International symposium for marine biotechnology.

- September. Taiwan
4. S. Tsai, V. Yang, C. Lin (2016) Comparison of the cryo-tolerance of vitrified gorgonian oocytes. The 23rd pacific science congress. June. Taiwan
 5. C. Lin, S. Tsai (2015) Thermal injury on mitochondria of coral oocytes at hypothermic conditions. The 6th International symposium for marine biotechnology. September. Taiwan
 6. G. Chong, L.H. Wang, S. Tsai, C. Lin (2015) Use of adenosine triphosphate bioassay to assess the effects of cryoprotectants on symbiotic algae of *Junceella fragilis*. The 6th International symposium for marine biotechnology. September. Taiwan
 7. S. Tsai, W. Yen, C. Lin (2015) Development of cryopreservation techniques for gorgonian oocytes through vitrification. The second conferences on the life sciences & sustainability 2015. May-June. Japan
 8. S. Tsai, P. Thongpooe, C. Lin (2015) Impacts of low temperature preservation on mitochondrial DNA copy number in oocytes of the hard coral *Echinopora* sp. Low temperature science and biotechnological advances. April. India
 9. C. Lin, W. Yen, S. Tsai (2014) Comparison of propylene glycol and dimethyl sulfoxide based vitrification solutions for the cryopreservation of gorgonian (*Junceella juncea*) sperm. The asian conferences on the life sciences & sustainability 2014. August. Japan
 10. C. Lin, F.W. Kou, S. Tsai (2014) Membrane lipid phase transition behavior of oocytes from three gorgonian corals in relation to chilling injury. 3rd Asia-Pacific coral symposium. June. Taiwan
 11. C. Lin, G. Chong, S. Tsai (2014) Cryopreservation of the symbiotic algae of a gorgonian coral (*Junceella fragilis*). 10th Asia-Pacific marine biotechnology conference. May. Taiwan
 12. C. Lin, S. Tsai (2014) Degradation of mitochondrial DNA in cryoprotectant-treated hard coral (*Echinopora* spp.) oocytes. 2014 Bangkok international conference on biological engineering & natural science. January. Thailand.
 13. C. Lin, S. Tsai, Y. Jhuang, C.C. Lin (2013) Ultrastructural observation on the oogenesis of gorgonian coral (*Junceella juncea*). 13TH Asian pacific aquaculture. December. Vietnam.
 14. L.H. Wang, C. Lin, Y.C. Li, Z. Lin, Y.Y. Zhao, C.C. Hu, J.H. Guo, S. Tsai (2013) Relationship between cryobiology and lipid concentration in banded coral shrimp (*Stenopus hispidus*) embryos. The 5th International symposium for marine biotechnology. September. Taiwan
 15. S. Tsai, L.H. Wang, Z. Lin, Y.C. Li, P.J. Meng, **C. Lin** (2013) lipid content and composition of oocytes from five coral species: potential implications for future cryopreservation efforts. International conference on challenges in aquatic science. March. Taiwan
 16. S. Tsai, Z. Lin, Y.C. Li, **C. Lin** (2013). Saving corals by cryopreservation technique. Annual international seminar on marine science and aquaculture. March. Malaysia. (oral presentation)
 17. S. Tsai, **C. Lin** (2012) Development of cryopreservation techniques for coral oocytes. The first Asian marine biology symposium. December. Thailand (oral presentation)
 18. S. Tsai, L.H. Wang, Z. Lin, W.C. C, Y.C. Li, **C. Lin** (2012) Lipid content and composition as an indicator of successful cryopreservation in coral oocytes. The 4th International symposium for marine biotechnology. September. Taiwan
 19. W. Yen, Y. Jhuang, W. Chang, S. Tsai and **C. Lin** (2011) Attempted cryopreservation of gorgonian (*Junceella Juncea*) oocytes through vitrification. The 3th International symposium for marine biotechnology. September. Taiwan
 20. Z. Lin, **C. Lin** and S. Tsai (2011) Assessing the feasibility of using *Carassius auratus* as feed for the marble goby (*Oxyeleotris marmorata*) The 3th International symposium for marine biotechnology. September. Taiwan
 21. E. Spikings, **C. Lin** and S. Tsai (2011) Impact of cryoprotectants on mitochondria of coral oocytes. 29th-30th Research poster exhibition. June. UK
 22. **C. Lin** and S. Tsai (2009) Development of in vitro culture method for early stage zebrafish (*Danio rerio*) ovarian follicles for use in cryopreservation studies. The 2th International symposium for marine biotechnology. September. Taiwan
 23. S. Tsai, E. Spiking, F.W. Kuo, N.C. Lin and **C. Lin** (2009) Use of adenosine triphosphate assay and simultaneous staining with fluorescein diacetate and propidium iodide to evaluate the effect of cryoprotectants on hard coral (*Echinopora* sp.) oocyte. The 2th International symposium for marine biotechnology. September. Taiwan
 24. S. Tsai and **C. Lin** (2009) Effects of cryoprotectant on the embryos of banded coral shrimp (*Stenopus hispidus*), preliminary studies to establish freezing protocols. 46th Annual Meeting of the Society for Cryobiology. July. Japan
 25. **C. Lin**, E. Spikings, T. Zhang and D.M. Rawson (2009) Effect of chilling and cryopreservation on expression of Pax genes in zebrafish (*Danio rerio*) embryo and blastomeres 27th-28th Reserch poster exhibition. June. UK
 26. **C. Lin**, E. Spikings, T. Zhang, D.M. Rawson Evaluation of potential housekeeping genes for use in expression profiling the effects of chilling and freezing in zebrafish embryos and blastomeres. The society for low temperature biology meeting September (2008). Denmark

27. **C. Lin**, T. Zhang, G. Elgar, D.M. Rawson. (2008) Cryopreservation and gene expression in zebrafishh blastomere. *Cryoletters*. 29(1): 85. Abstract.
28. E. Spikings, **C. Lin**, T. Zhang, D.M. Rawson. (2008) The effect of chilling on mitochondrial DNA replication in zebrafish embryos. 8th international conference on zebrafish development and genetics. 628. June. USA
29. **C. Lin**, E. Spikings, T. Zhang, D.M. Rawson (2008) Housekeeping genes for cryopreservation studies on zebrafish embryos and blastomeres. 26th-27th Reserch poster exhibition. June. UK
30. **C. Lin**, T. Zhang, G. Elgar, D.M. Rawson. (2007) Initial studies on cryopreservation and gene expression in isolated blastomeres of zebrafish (*Danio rerio*). *Cryobiology*. 55: 365. Abstract
31. **C. Lin**, T. Zhang, G. Elgar, D.M. Rawson (2007) Cryopreservation and gene expression in zebrafishh blastomere. 5th European zebrafish genetics and development meeting. 89. July. The Netherlands

三、其他著作或專利：

Patents

林家興*、方力行、蔡錦玲、蔡淑君、沈朋志 (2009) 水生動物的細胞低溫保存方法 (Method for microdrop cryopreservation of aquatic cells) 中華民國發明專利 I306897

林家興*、方力行、蔡淑君 (2006) 引子純化裝置 (A device for oligonucleotide purification and desalting) 中華民國新型專利 M285702

林家興*、方力行、王立雪、蔡淑君 (2006) 魚類種苗之孵化裝置及孵化設備 (A system for hatching of aquatic embryos) 中華民國新型專利 M285214

林家興*、蔡淑君(2009) 蒸氣法冷凍保存裝置 (A device for cryopreservation) 中華民國發明專利 M394447

Technology transfer

林家興*、方力行、王立雪、蔡淑君 (2006) 魚類種苗之孵化裝置及孵化設備 (A system for hatching of aquatic embryos) 中華民國新型專利 M285214

Technical books and articles

林家興、郭富雯 (2018) 「珊瑚醫院特展」泰國移展紀事。國立海洋生物博物館館訊 91

林家興 (2017) 海生館珊瑚醫院特展，新南向前進泰國。國立海洋生物博物館館訊 90

林家興 (2015) 珊瑚冷凍方舟—珊瑚礁的未來不是夢。國立海洋生物博物館館訊 78

林家興 (2013) 南極海域浮游生物之研究。國立海洋生物博物館館訊

林家興 (2012) 拯救珊瑚礁—低溫冷凍保存技術。科學月刊 511(7), 552-553

方力行、郭富雯、林家興、宋秉鈞、王琳麒、林嘉瑋、何宣慶、張祐嘉、王自磐 (2012) 零下任務-台灣科學界第一次南極長征。時報文化

林家興 (2011) 珊瑚保育-冷凍基因庫。珊瑚世界的探索與了解。國立海洋生物博物館專書 48-53

王立雪、林家興、唐川禾、樊同雲、陳啟祥 (2011) 珊瑚對溫度變動的生理調適。珊瑚世界的探索與了解。國立海洋生物博物館專書 29-37

林家興 (2011) 南極企島生態研究。國立海洋生物博物館館訊 9

四、歷年內科技部之研究計畫：

2010 Effects of cryopreservation on the embryos of banded coral shrimp (*Stenopus hispidus*). 冷凍保存珊瑚蝦 (*Stenopus hispidus*) 胚胎之研究 (National science council, research project for newly recruited personal 國科會新進人員研究計劃)

2012 Evaluation of mitochondrial DNA molecules in cryoprotectant and chilling treated hard coral (*Echinopora* sp.) oocytes. 應用即時定量 PCR 檢測石珊瑚卵粒腺體 DNA 分子於冷凍保存過程中低溫及抗凍劑影響之研究 (National science council, project for excellent junior research investigators, NSC 101-2313-B-291 -002 國科會優秀年輕學者研究計劃)

2013 Effects of chilling on the mitochondrial DNA molecules and ultrastructure of hard coral (*Echinopora* spp.) oocytes. 低溫保存對石珊瑚(*Echinopora* spp.)卵粒腺體 DNA 分子及超微結構影響之研究 (National science council, project for excellent junior research investigators, NSC 102-2313-B-291 -002 國科會優秀年輕學者研究計劃)

2014 The ultrastructure and lipid of low temperature preservation in hard coral oocytes. 利用超微結構評估珊瑚卵母細胞低溫冷凍保存之可行性 (Ministry of science and technology, project for excellent junior research investigators, MOST 103-2313-B-291 -001 科技部優秀年輕學者研究計劃)

2015 The Omics in the Ocean – International Symposium for Biology Marine and Biotechnology. 海洋中的"奧祕"-第六屆國際海洋生物及生物科技研討會 (Ministry of science and technology, 104-2916-I-291-001-A1, 科技部研討會補助計劃)

2016 A strategy for coral conservation in response to the global warming and climate change: the Frozen Ark. 因應全球暖化及氣候變遷之珊瑚保育策略-冷凍方舟 (Ministry of science and technology, general research project, 105-2611-M-291-004, 科技部一般型研究計劃)

2016 Cryopreservation of group sperm for use in hybridization studies. 石斑魚凍精技術之開發與應用於雜交技術之研究 (Academic-industrial cooperation project, 德河海洋生技股份有限公司產學合作技劃)



教學

五、三年內開授課程：

學年度	課程名稱(必/選)	選修人數
104	水生生物冷凍保存 Cryopreservation of aquatic species 海洋生物學 Marine Biology 低溫生物學 Cryobiology 遺傳保種 Genetic Conservation 英文科學文獻導讀 Scientific and Technical Literature Reading	
105	水生生物冷凍保存 Cryopreservation of aquatic species 海洋生物學 Marine Biology 低溫生物學 Cryobiology 遺傳保種 Genetic Conservation 英文科學文獻導讀 Scientific and Technical Literature Reading	
106	水生生物冷凍保存 Cryopreservation of aquatic species 海洋生物學 Marine Biology 低溫生物學 Cryobiology 遺傳保種 Genetic Conservation 英文科學文獻導讀 Scientific and Technical Literature Reading 海洋生物科學文獻導讀 Scientific and Technical Literature Reading on Marine Biology	

六、三年內指導學生：

學年度	
104	李宗穎、趙怡穎
105	呂佳琳、郭鈞賀
106	卓建銘、吳業皓



■ 服務

七、三年內校內校、院、系(所、科及中心)各級公共事務參與：

年月	校/院/系級	項目
2016/06	海洋學院	擔任學校關委員會委員
2017/06	海洋學院	擔任學校關委員會委員
2018/06	海洋學院	擔任學校關委員會委員

八、三年內專業學術服務工作項目：

年月	校內/校外	項目
~2018		<p>國際期刊審稿：</p> <p>PNAS, 5-Year IF=10.285</p> <p>Cryoletters, 5-Year IF=0.972</p> <p>PloS ONE, 5-Year IF=3.535</p> <p>Reviews in aquaculture, 5-Year IF=4.111</p> <p>Cryobiology, 5-Year IF=1.979</p> <p>Aquaculture research, 5-Year IF=1.745</p> <p>Marine biology, 5-Year IF= 2.534</p> <p>Journal of marine science and technology, IF= 0.943</p> <p>Tissue and cell, 5-Year IF=1.400</p> <p>Journal of crustacean biology, 5-Year IF=1.029</p> <p>Theriogology, 5-Year IF=2.056</p> <p>Molluscan research, IF=0.708</p> <p>Journal of applied phycology, IF=2.372</p> <p>Journal of the Fisheries Society of Taiwan</p> <p>SCI journal managing editor:</p> <p>Frontiers in bioscience 5-Year IF=3.082</p> <p>Platax</p>



■ 教學與研究獎勵

九、三年內之教學與研究獎勵事蹟：

學年度	校內/校外	項目
105	校內	校級優良導師