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**Research Interests**

1. The effect of bacterial pathogen genome on fish (cobia) immunity
2. Antimicrobial effect of TiO<sub>2</sub> on aquatic organism (cobia) pathogens

Bactericidal effects of TiO <sub>2</sub> on fish pathogens				
No.	Paper	2013 SCI IF	Subject Categories (領域別)	Ranking (排名)
1	<b>Cheng, T.C.</b> , K.S. Yao, Y.H. Hsieh, L.L. Hsieh, C.Y. Chang, Optimizing preparation of the TiO <sub>2</sub> thin film reactor using the Taguchi method. <i>Materials and Design</i> . <b>2010</b> , 31:1749-1751.	<b>3.171</b>	Materials science, Multidisciplinary	41/251 = 16.3%
2	Yeh N.G., C.H. Wu, <b>T.C. Cheng*</b> , Light-emitting diodes—Their potential in biomedical applications. <i>Renewable &amp; Sustainable Energy Reviews</i> . <b>2010</b> , 14: 2161-2166.	<b>5.510</b>	Energy and Fuels	6/83 = 7.2%
3	<b>Cheng, T.C.</b> , K.S. Yao, N. Yeh, C.I. Chang, H.C. Hsu, F. Gonzalez, C.Y. Chang, Bactericidal effect of blue LED light irradiated TiO <sub>2</sub> /Fe <sub>3</sub> O <sub>4</sub> particles on fish pathogen in seawater. <i>Thin Solid Films</i> . <b>2011</b> , 519: 5002-5006.	<b>1.867</b>	Materials Science, Coatings & Films	6/18 = 33.3%
4	N. Yeh, Y.C. Lee, C.Y. Chang, <b>T.C. Cheng*</b> , Anti-fish bacterial pathogen effect of visible light responsive Fe <sub>3</sub> O <sub>4</sub> @TiO <sub>2</sub> nanoparticles immobilized on glass using TiO <sub>2</sub> sol-gel. <i>Surface and Coatings Technology</i> . <b>2013</b> , 549:93-97.	<b>2.199</b>	Materials Science, Coatings & Films	4/18 = 22.2%
5	N. Yeh, P. Yeh, N. Shih, O. Byadgi, <b>T.C. Cheng*</b> , Applications of light-emitting diodes in researches conducted in aquatic environment. <i>Renewable &amp; Sustainable Energy Reviews</i> . <b>2014</b> , 32: 611–618.	<b>5.510</b>	Energy and Fuels	6/83 = 7.2%
6	Kanchanatip E., N. Grisdanurak*, N. Yeh, <b>T.C. Cheng*</b> , Photocatalytic bactericidal efficiency of Ag doped TiO <sub>2</sub> /Fe <sub>3</sub> O <sub>4</sub> on fish pathogens under visible light. <i>Journal of</i>	<b>Un-available</b>	<b>Unavailable until 2015</b>	<b>Unavailable until 2015</b>

	Photoenergy. <b>2014 (2014)</b> , Article ID 903612, 8 pages http://dx.doi.org/10.1155/2014/903612	<b>until 2015</b>		
Fish Immunology				
No.	Selected Paper	2013 SCI IF	Subject Categories (領 域別)	Ranking (排 名)
8	<b>Cheng, T.C.</b> , Y.S. Lai, S.Y. Lu, I.Y. Lin, C.P. Wu, S.L. Chang, T.I. Chen, M.S. Su, Establishment, characterization, virus susceptibility and transfection of cell lines from cobia ( <i>Rachycentron canadum</i> ) brain and fin. Journal of Fish Diseases. <b>2010</b> , 33: 161-169.	<b>1.507</b>	Veterinary Sciences	30/132 = 22.7%
7	Cheng C.I., <b>P.H. Hung</b> , <b>C.C. Wu</b> , <b>T.C. Cheng</b> , J.M. Tsai, K.J. Lin, C.Y. Lin, Simultaneous detection of multiple fish pathogens using a naked-eye readable DNA microarray. Sensors. <b>2012</b> , 12:2710-2728.	<b>2.048</b>	Instruments & Instrumentation	10/57 = 17.5%
9	O. Byadgi, D. Puteri, Y. H. Lee, J. W. Lee, <b>T. C. Cheng*</b> , Identification and expression analysis of cobia ( <i>Rachycentron canadum</i> ) Toll-like receptor 9 gene. Fish and Shellfish Immunology. <b>2014</b> , 36:417-427.	<b>3.034</b>	Veterinary Sciences	3/132 = 2.3%
10	O. Byadgi, D. Puteri, J. W. Lee, T. C. Chang, Y. H. Lee, C. Y. Chu, <b>T. C. Cheng*</b> , The Effect of TLR9 Agonist CpG Oligodeoxynucleotides on the Intestinal Immune Response of cobia ( <i>Rachycentron canadum</i> ). Journal of Immunology Research (formerly journal titled Clinical and Developmental Immunology. <b>2014</b> , Article ID 273284, 15 pages. doi: 10.1155 / 2014/ 273284.	<b>2.934</b>	Immunology	67/144 = 46.5%
Invention patent (發明專利)				
11	Inhibition of pathogen growth by using photocatalyst combinations 以光觸媒組合物抑制病原菌生長之方法/ 鄭達智 李英傑 張禎佑 姚國山 許浩展/ 2013-2030	-	Taiwan / Invention 發明 專利/ 台灣	-