



張志成 Chang, Chih-Cheng

教授

最高學歷：美國愛荷華州立大學獸醫學院博士

MAIL：ccchang@mail.ncyu.edu.tw

電話：05-2732958

傳真：05-2732917

簡要經歷

國立嘉義大學獸醫學系教授 (2020/08 迄今)

國立嘉義大學獸醫學系副教授 (2011/08-2020/07)

國立嘉義大學獸醫學系助理教授 (2004/08-2011/07)

國立嘉義大學農學院附設動物醫院院長 (2007/08-2010/07)

財團法人台灣動物科技研究所動物醫學組副研究員 (2002/09-2004/07)

美國愛荷華州立大學獸醫診斷實驗室博士後研究員 (2001/08-2002/07)

財團法人臺灣養豬科學研究所病理生物系助理研究員 (1994/02-1995/12)

台灣養豬科學研究所研究助理 (1986/10-1990/09 | 1992/07-1994/01)

專長

豬病學、獸醫病毒學、獸醫病理學、病毒演化學、動物疾病診斷

主要教授課程

豬病學、豬生產醫學、獸醫病毒學、高等獸醫呼吸道疾病學、高等獸醫消化道疾病學

研究興趣

豬病生產醫學、動物病毒演化、動物疾病致病機轉、動物疾病田間疫情調查

期刊論文

1. Pang VF, Chiang CF, **Chang CC**. 2020. The in vitro effects of aflatoxin B1 on physiological functions of swine alveolar macrophages. *Veterinary Medicine and Science*. 6 (4): 919-925. (SCI) (IF: 0.943, 74/141, 2018)
2. Chiang CF, Yen CH, **Chang CC**. 2020. Evaluation on the Efficacy of a Porcine Reproductive and Respiratory Syndrome Virus Subunit Vaccine in Field Nursery Pigs. *Journal of International Cooperation* 15(1):xx-xx (2020-04-24 accepted).
3. Yu CH, Cheng TY, Chiang CF, **Chang CC**. 2019. Effects of a live porcine reproductive and respiratory syndrome virus (PRRSV) vaccine on the growth performance, antibody response, and infection of common pathogens in field pigs. *Journal of International Cooperation* 14(2):83-98.
4. Yu CH, Kaewprom K, **Chang CC**, Chiou MT, Lin CN. 2019. Genetic evolution of porcine reproductive and respiratory syndrome virus based on ORF5 on 7 Taiwanese pig farms. *Thai Journal of Veterinary Medicine* 49(2):167-174. (SCI) (IF: 0.318, 116/141, 2018)
5. Yu CH, Chen CY, **Chang CC**. 2019. The immediate effects of weaning stress on the hypothalamus-pituitary-adrenal alteration of newly weaned piglets. *Journal of Animal Physiology and Animal Nutrition* 103:1218-1223. (SCI) (IF: 1.703, 34/141, 2018)
6. Hsu YH, Chou SJ, **Chang CC**, Pan MJ, Yang WC, Lin CF, Chan KW. 2017. Development and validation of a new loop-mediated isothermal amplification for detection of pathogenic *Leptospira* species in clinical materials. *Journal of Microbiological Methods* 141:55-59. (SCI) (IF: 1.803, 104/133, 2018)
7. Xue YJ, **Chang CC**, Lai JM, Wang JH. 2017. Determining the tranquilization dose and residue of tricaine methanesulfonate (MS-222) in sea bass *Lates calcarifer* tissue. *Fisheries Science* 83(4):625-633. (SCI) (IF: 0.929, 37/52, 2018)
8. Lee Y, Lin CM, Jeng CR, Chang HW, **Chang CC**, Pang VF. 2015. The pathogenic role of torque teno sus virus 1 and 2 and their correlations with various viral pathogens and host immunocytes in wasting pigs. *Veterinary Microbiology* 180:186-195. (SCI) (IF: 2.791, 7/141, 2018)
9. Chiou MT, Yu CH, **Chang CC**, Chung WB, Wu HY, Lin CF, Lin CN. 2014. Molecular characterization of the porcine epidemic diarrhea virus TW4/2014 in Taiwan. *Austin Virology and Retrovirology* 1(2): 1-4.
10. Chan KW, Ping TY, Chou SJ, Zheng ZJ, Yang WC, Lai JM, Lo DY, **Chang CC**, Wu JT. 2014. Case Report: Treatment of an elderly dog with concurrent heart disease and acute uremia by hemodialysis. *Taiwan Veterinary Journal* 40(2):95-100.
11. Tsai YC, Jeng CR, **Chang CC**, Hsiao SH, Chang HW, Lin CM, Chia MY, Wan CH, Pang VF. 2014. Differences in the expression of innate immune response-modulating genes in blood monocytes between subclinically porcine circovirus type 2 (PCV2)-infected and PCV2-free pigs prior to and after lipopolysaccharide stimulation in vitro. *Taiwan Veterinary Journal* 40(1):37-48.

12. Karuppannan AK, Qiang J, **Chang CC**, Kwang J. 2013. A novel baculovirus vector shows efficient gene delivery of modified porcine reproductive and respiratory syndrome virus antigens and elicits specific immune response. *Vaccine* 31:5471-5478. (SCI) (IF: 3.485, 35/124, 2014)
13. Chan KW, Ping TY, Chou SJ, Zheng ZJ, Yang WC, Lai JM, Lo DY, **Chang CC**, Wu JT. 2013. Case Report: Treatment of an elderly dog with concurrent heart disease and acute uremia by hemodialys. *Taiwan Veterinary Journal* 39(3):150-157.
14. Lin CM, Jeng CR, Liu JP, Lin EC, **Chang CC**, Huang YL, Tsai YC, Chia MY, Wan CH, Pang VF. 2013. Immune gene expression profiles in swine inguinal lymph nodes with different viral loads of porcine circovirus type 2. *Veterinary Microbiology* 162:519-529. (SCI) (IF: 2.791, 7/141, 2018)
15. Chiu SC, Hu SC, **Chang CC**, Chang CY, Huang CC, Pang VF, Wang FI. 2012. The role of porcine teschovirus in causing diseases in endemically infected pigs. *Veterinary Microbiology* 161:88-95. (SCI) (IF: 2.791, 7/141, 2018)
16. Huang PC, **Chang CC**, Kuo TY, Yang TS, Lee DN. 2011. Effects of diet supplemented with lingzhi culture on the growth and immune responses of weaned pigs. *J. Chin. Soc. Anim. Sci.* 40(4):221-231.
17. Lo DY, Chen HY, Tee KY, Tseng YS, Wang KT, Tsai HP, Chiou HY, Hsiao SH, **Chang CC**, Wu JT. 2011. Case Report: Pyogranulomatous gastritis caused by pythium insidiosum in a dog. *Taiwan Veterinary Journal* 37(2):129-135.
18. Lin CM, Jeng CR, Hsiao SH, Liu JP, **Chang CC**, Chiou MT, Tsai YC, Chia MY, Pang VF. 2011. Immunopathological characterization of porcine circovirus type 2 infection-associated follicular changes in inguinal lymph nodes using high-throughput tissue microarray. *Veterinary Microbiology* 149(1-2):72-84. (SCI) (IF:3.327, 2/145,2011)
19. **Chang CC**, Huang AJ, Shyu BR, Ma WJ, Pang VF, Wang Jh. 2011. Epidemiological survey of torque teno virus (TTV) in Taiwan pig farms from 2008 to 2009. *Taiwan Veterinary Journal* 37(1):45-52.
20. Shen SY, Ma WJ, Yu CY, **Chang CC**. 2010. Genetic variation of porcine reproductive and respiratory syndrome viruses in Taiwan. *Taiwan Veterinary Journal* 36(4):305-314.
21. Yang SF, Yang HL, Hsiao SH, Lin PC, Cheing BH, Tsai HP, Fan CL, Wang WL, **Chang CC**, Liang SL. 2010. Case Report: Percutaneous transvenous coil embolization of an extrahepatic portosystemic shunt in a dog. *Taiwan Veterinary Journal* 36(2):107-114.
22. Chen PC, Pang VF, Hsiao SH, Chang TC, **Chang CC**, Chang CH, Wu JC, Jeng CR. 2010. Detection of hepatitis E virus (HEV) infection in pigs, zoo animals, and environmental rodents in Taiwan. *Taiwan Veterinary Journal* 36(2):124-131.
23. Tsai YC, Jeng CR, Hsiao SH, Chang HW, Liu JJ, **Chang CC**, Lin CM, Chia MY, Pang VF. 2010. Porcine circovirus type 2 (PCV2) induces cell proliferation, fusion, and chemokine expression in swine monocytic cells in vitro. *Veterinary Research* 41(5):60 (SCI) (IF:3.765, 1/145,2010)
24. Ma WJ, Chen QL, **Chang CC**. 2010. Investigation of antibody performance and presence of viral rna before and after vaccination of classical swine fever vaccine strain in taiwan pig farms. *Taiwan Veterinary Journal* 36(1):45-54.

25. L DY, Zheng ZJ, Jiang MY, Tee KY, Chiou HY, Tsai HP, Tseng YS, Lin HC, **Chang CC**, Lai JM, Wu JT. 2010. Case Report: Mediastinal b-cell lymphoma in a dog. *Taiwan Veterinary Journal* 36(1): 67-72.
26. Meng T, Jia Q, Liu S, Karuppanan AK, **Chang CC**, Kwang J. 2010. Characterization and epitope mapping of monoclonal antibodies recognizing N-terminus of Rep of porcine circovirus type 2. *Journal of Virological Methods* 165: 222-229. (SCI) (IF:1.746, 41/66, 2018)
27. **Chang CC**, Yoon KJ, Zimmerman JJ. 2009. Evidence that persistent porcine reproductive and respiratory syndrome virus infection in pigs does not require significant genetic change in open reading frame 5. *Journal of Swine Health and Production* 17(6):318–324. (SCI) (IF: 0.719,44/126, 2002)
28. Lin CM, Jeng CR, Hsiao SH, **Chang CC**, Liu CH, Tsai YC, Chia MY, and Pang VF. 2009. Development and evaluation of an indirect in situ polymerase chain reaction for the detection of porcine circovirus type 2 in formalin-fixed and paraffin-embedded tissue specimens. *Veterinary Microbiology* 138:225-234. (SCI) (IF: 2.370, 5/135, 2008)
29. Yu CH, Hsiao SH, Chen CY, **Chang CC**. 2008. Effect of azaperone on plasma cortisol and stress-related gene expression in the hypothalamus-pituitary-adrenal axis in co-mingling weaned pigs. *Taiwan Veterinary Journal* 34(3):177-183.
30. Yu CY, Liu YW, Chou SJ, Chao MR, Weng MB, Tsay JG, Chiu CH, Wu CC, Lin TL, **Chang CC**, Chu CS. 2008. Genomic diversity and molecular differentiation of *Riemerella anatipestifer* associated with eight outbreaks in five farms. *Avian Pathology* 37(3): 273-279. (SCI) (IF: 1.809, 12/129, 2008)
31. Chang HW, Jeng CR, Lin CM, Liu JJ, **Chang CC**, Tsai YC, Chia MY, and Pang VF. 2007. The involvement of Fas/FasL interaction in porcine circovirus type 2 and porcine reproductive and respiratory syndrome virus co-inoculation-associated lymphocyte apoptosis in vitro. *Veterinary Microbiology* 122(1-2):72-82. (SCI) (IF: 2.370, 5/135, 2008)
32. Chang HW, Jeng CR, Liu JJ, Lin TL, **Chang CC**, Chia MY, Tsai YC, Pang VF. 2005. Reduction of porcine reproductive and respiratory syndrome virus (PRRSV) infection in swine alveolar macrophages by porcine circovirus 2 (PCV2)-induced interferon-alpha. *Veterinary Microbiology* 108(3-4):167-177. (SCI) (IF: 2.370, 5/135, 2008)
33. Cha SH, **Chang CC**, Yoon KJ. 2004. Instability of the restriction fragment length polymorphism pattern of open reading frame of porcine reproductive and respiratory syndrome virus during sequential pig-to-pig passages. *Journal of Clinical Microbiology* 42(10):4462-4467. (SCI) (IF:3.439, 20/84, 2004)
34. Hermann JR, Honeyman MS, Zimmerman JJ, Thacker BJ, Holden PJ, **Chang CC**. 2003. Effect of dietary *Echinacea purpurea* on viremia and performance in porcine reproductive and respiratory syndrome virus-infected nursery pigs. *Journal of Animal Science* 81:2139-2144. (SCI) (IF:1.563, 3/41, 2003)
35. Hermann JR, Honeyman MS, Holden PJ, Zimmerman JJ, Thacker BJ, **Chang CC**. 2002. Effects of dietary *Echinacea purpurea* on PRRSV-infected nursery pigs. *Journal of Animal Science* Sep;81(9):2139-2144. (SCI) (IF: 1.576,2/42, 2002)

36. **Chang CC**, Yoon KJ, Zimmerman JJ, Harmon KM, Dixon PM, Dvorak CMT, Murtaugh MP. 2002. Evolution of porcine reproductive and respiratory syndrome virus during sequential passages in pigs. *Journal of Virology* 76(10): 4750-4763. (SCI) (IF:5.241, 3/24, 2002)
37. Horter DC, Pogranichniy RC, **Chang CC**, Evan R, Yoon KJ, Zimmerman JJ. 2002. Characterization of the carrier state in porcine reproductive and respiratory syndrome virus infection. *Veterinary Microbiology* 2315: 1-16. (SCI) (IF:1.727, 7/129, 2002)
38. Yoon KJ, **Chang CC**, Zimmerman JJ, Harmon KM. 2001. Genetic and antigenic stability of PRRS virus in persistently infected pigs: clinical and experimental prospective. *Advances in Experimental Medicine and Biology* 494: 25-30. (SCI) (IF:2.126, 30/87, 2018)
39. Yoon KJ, **Chang CC**, Zimmerman JJ, Harmon KM. 2001. Field and experimental assessment of PRRSV evolution. 2000 ISU Swine Research Report, p 182-184.
40. Horter D, **Chang CC**, Pogranichnyy R, Zimmerman JJ, Yoon KJ. 2001. Persistence of porcine reproductive and respiratory syndrome virus in pigs. *Advances in Experimental Medicine and Biology* 494: 91-94. (SCI) (IF:2.126, 30/87, 2018)
41. Wagstrom EA, **Chang CC**, Yoon KJ, Zimmerman JJ. 2001. Shedding of porcine reproductive and respiratory syndrome (PRRS) virus in mammary secretions of sows. *American Journal of Veterinary Research* 62:1876-1880. (SCI) (IF:1.040, 25/128, 2001)
42. Horter DC, **Chang CC**, Pogranichnyy R, Yoon KJ, Zimmerman JJ. 2000. Persistence of PRRS virus in nursery pigs. 1999 ISU Swine Research Report, p 187.
43. Yoon KJ, Zimmerman JJ, **Chang CC**, Cancel-Tredo S CT, McGinley MJ. 1999. Effect of challenge dose and route on porcine reproductive and respiratory syndrome virus (PRRSV) infection in young swine. *Veterinary Research* 30: 629-638. (SCI) (IF:0.941, 24/129, 1999)
44. Wagstrom EA, **Chang CC**, Yoon KJ, Zimmerman JJ. 1998. Shedding of PRRS virus in milk and colostrum. 1997 ISU Swine Research Report, p 161.
45. Lee KH, Jeng CR, Pang VF, **Chang CC**, Cheng IC, Chung WB, Chueh LL. 1998. Detection of porcine reproductive and respiratory syndrome virus by in situ hybridization. *Taiwan Veterinary Journal* 24:16-23.
46. Yoon KJ, Zimmerman JJ, **Chang CC**, Reitz P, McGinley M. 1997. Effect of challenge dose and route on transmission of PRRS virus infection. 1996 ISU Swine Research Report, pp 173-175.
47. Pang VF, **Chang CC**, Liu KW. 1994. Application of MTT colorimetric assay to measure cell proliferation and viability for swine lymphocytes and macrophages. *Taiwan Veterinary Journal* 20(1):17-26.
48. 鍾文彬、吳大中、林敏雯、黃瓊儀、**張志成**、張文發、楊平政。1997. 臺灣地區豬繁殖與呼吸道症候群Ⅲ. 流行病學調查。 *Taiwan Veterinary Journal* 23(1): 45-50.
49. Pang VF, **Chang CC**, Chang WF. 1993. Concurrent gastric and hepatic amebiasis in a dusky leaf monkey (*Presbytis obscurus*). *Journal of Zoo and Wildlife Medicine*. 24(2):204-207. (SCI) (IF:0.524, 103/141, 2018)
50. 龐飛、李家豪、關玲玲、劉振軒、鄭穹翔、邱慧英、**張志成**、傅滢濱、張志華、李淑惠、陳美英、蕭終融、張照夫、季昭華、鄭謙仁。2002. 以聚合酶鏈鎖反應由福馬林固

- 定、石蠟包埋組織進行野生動物分枝桿菌感染之診斷。Taiwan Veterinary Journal 28: 80-87.
51. 蕭世烜、鄭謙仁、張志成、闕玲玲、鄭益謙、楊平政、龐飛。 March 1999. 基因工程產製豬白血球中介質 II 對豬隻接種豬生殖與呼吸綜合症死毒免疫效力的影響。 Taiwan Veterinary Journal 25(1):23-33.
 52. 季昭華、邱慧英、張志成、陳德勤、龐飛。 1994. Case Report: Malignant mixed mammary tumor in a tiger (*Panthera tigris*) Taiwan Veterinary Journal 20(4):395-401.
 53. Pang VF, Chiou HI, Chang CC. December 1994. Case Report: Mammary gland adenocarcinoma in a lion. Taiwan Veterinary Journal 20(4):312-318.
 54. 張志成、龐飛。 1994. Oesophagostomiasis in black gibbon(*Hylobates concolor*) and Orangutan(*Pongo Pygmaeus*) Taiwan Veterinary Journal 20(4):357-361.
 55. 張志成、鍾文彬、林敏雯、楊平政、翁仲男、張文發、邱雲棕、劉振軒、朱瑞民。1993. 臺灣地區豬繁殖與呼吸道症候群 II. 以無特定病原豬人工接種豬繁殖與呼吸道症候群病毒。 Taiwan Veterinary Journal 19(4):277-284.
 56. 張志成、鍾文彬、林敏雯、楊平政、翁仲男、邱雲棕、張文發、朱瑞民。 1993. 臺灣地區豬繁殖與呼吸道症候群 I. 病毒分離。 Taiwan Veterinary Journal 19(4):268-276.

專書著作

1. Chang CC. 2019. Viral Disease: Bunyaviruses. DISEASES OF SWINE 11th. Publisher: Wiley Blackwell/ Publication date (print): 2019-05/ ISBN (print): 978-1-119-35085-9/ ISBN (ebook): 978-1-119-35090-3 (2019-03).
2. Chang CC. 2012. Viral Disease: Bunyaviruses. DISEASES OF SWINE 10th. Publisher: Wiley Blackwell/ Publication date (print): 2012-01/ ISBN (print): 978-0-8138-2267-9/2012.
3. Chang CC. 2001. Evolution of porcine reproductive and respiratory syndrome virus (PRRSV) during sequential pig passages. PhD Dissertation, Iowa State University, USA
4. 楊平政、張志成、朱瑞民 合著。 1996. 豬病診療。台灣養豬科學研究所出版。 ISBN 957-9069-01-08, Page 1-170.
5. 張志成、劉振軒、劉錫光 合著。 1994. 台灣野生動物疾病圖譜。台灣養豬科學研究所出版。 ISBN 957-9069-16-6, page 1-134.
6. 張志成。 1992. Effects of low-level aflatoxin on the immune function and growth performance of swine.