
BIOGRAPHICAL SKETCH

NAME in English PETRUS TANG	POSITION TITLE Professor,
NAME in Chinese 鄧致剛	Department of Parasitology/Graduate Institute of Basic Medical Sciences

EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Department of Biology, Fu Jen Catholic University, Taiwan	B.Sc	05/1984	Biology
Department of Parasitology & Tropical Medicine, National Defense Medical Center, Taiwan,	M.Sc	05/1986	Parasite Biochemistry
Department of Pathology, Cambridge University, United Kingdom	Ph.D.	12/1995	Parasite Genomics

A. Positions and Honors

Positions and Employment

Professor,

Department of Parasitology/Graduate Institute of Basic Medical Sciences,
College of Medicine, Chang Gung University (2014-present)

Research Fellow (Joint appointment)

Molecular Infectious Diseases Research Center, Chang Gung Memorial Hospital (2016-)

Head,

Chang Gung Bioinformatics Core Laboratory (2003-present)

Consultant

Genomic Medicine Core Laboratory, Chang Gung Memorial Hospital (2016-)

Honorary Visiting Scholar

Department of Health Sciences, Technology & Informatics,
The Polytechnic University, Hong Kong (2009-2015)

Other Experience and Professional Memberships

President, Taiwan Society for Parasitology (2016-2019)

Council member, Taiwan Society for Bioinformatics & Systems Biology (2015-2018)

Council member, Taiwan Society for Parasitology (2004-2016)

Member, British Society for Parasitology (1991-present)

Member, Taiwan Society for Parasitology (1984-present)

Editor & Refereeing

Executive Editor (Parasitology), Journal of Microbiology, Immunology & Infection (2011- present)

Editorial Board, Experimental Parasitology (2016-present)

Chief Editor, Chinese Journal of Parasitology (2000-2002)

Editorial Board, Chinese Journal of Parasitology (2002-2005)

B. Selected Peer-reviewed Publications (2012-2017) (in chronological order)

Referred papers (*first/equal contribution or corresponding author)

1. Huang PJ, Lin WC, Chen SC, Lin YH, Sun CH, Lyu PC, Tang P* (2012) Identification of putative miRNA from the deep-branching unicellular flagellates. *Genomics* 99(2):201-207 (IF:2.386. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:67/161)
2. Yu DL, Wang Y, Fang X, Hu SN, Tang P, Fu Y (2012) Acquisition of hydrogenosomal presequences: examples from *Trichomonas vaginalis*. *FEMS Microbiol Lett* 330(2):127-31 (IF:1.858. MICROBIOLOGY:86/123)
3. Geng J, Chiu CH, Tang P, Chen Y, Shieh HR, Hu SN, and Chen YM (2012) Complete genome and transcriptomes of *Streptococcus parasanguinis* FW213: phylogenetic relations and potential virulence mechanisms. *PLoS ONE* 7(4): e34769 (IF:3.057. MULTIDISCIPLINARY SCIENCES:11/63)
4. Chen TW, Gan RRC, Wu TH, Lin WC, Tang P* (2012) VIP DB -a viral protein domain usage and distribution database. *Genomics* 100:149-156 (IF:2.386. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:67/161)
5. Chen TW, Gan RCR, Wu TH, Huang PJ, Lee CY, Chen YYM, Chen CC and Tang P* (2012) FASTannotator. *BMC Genomics* 13:Suppl 8, S9 (IF:3.867. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:35/160)
6. Huang KY, Huang PJ, Ku FM, Lin R, Alderete JF, Tang P* (2012) Comparative transcriptomic and proteomic analyses of *Trichomonas vaginalis* following adherence to Fibronectin. *Infect Immun* 80(11):3900-3911 (IF:3.729. INFECTIOUS DISEASES:20/83)
7. Horvathova L, Safarikova L, Basle M, Hrdy I, Campo NB, Shin JW, Huang KY, Huang PJ, Lin R, Tang P*, Tachezy J* (2012) Transcriptomic identification of iron-regulated and iron-independent gene copies within the heavily duplicated *Trichomonas vaginalis* genome. *Genome Biol Evol* 4(10): 905-917 (IF:4.098. GENETICS & HEREDITY:33/165)
8. Chen CL#, Lai YF#, Tang P#, Chien KY, Yu JS, Tsai CN, Chen HW, Wu CC, Chung T, Hsu CW, Chen CD, Chang YS, Chang PL, Chen YT (2012) Comparative and Targeted Proteomic Analyses of Urinary Microparticles from Bladder Cancer and Hernia Patients. *J Proteome Res* 11(12):5611-29 (IF:4.173. BIOCHEMICAL RESEARCH METHODS:12/77)
9. Huang KY, Shin JW, Huang PJ, Ku FM, Lin WC, Lin R, Hsu WM, Tang P*. (2013) Functional profiling of the *Trichomonas foetus* transcriptome and proteome. *Mol Biochem Parasit* 187:60– 71 (IF:1.787. PARASITOLOGY:17/36)
10. "Clarke M, Lohan AJ, Liu B, Lagkouvardos I, Roy S, Zafar N, Bertelli C, Schilde C, Kianianmomeni A, Burglin TR, Frech C, Turcotte B, Kopec KO, Synnott JM, Choo C, Paponov I, Finkler A, Soon Heng Tan C, Hutchins AP, Weinmeier T, Rattei T, Chu JS, Gimenez G, Irimia M, Rigden DJ, Fitzpatrick DA, Lorenzo-Morales J, Bateman A, Chiu CH, Tang P, Hegemann P, Fromm H, Raoult D, Greub G, Miranda-Saavedra D, Chen N, Nash P, Ginger ML, Horn M, Schaap P, Caler L, Loftus B. (2013) Genome of the environmental host *Acanthamoeba castellanii* highlights extensive lateral gene transfer and early evolution of tyrosine kinase signaling gene transfer and early evolution of pattern recognition and tyrosine kinase signalling. *Genome Biol* 14(2): R11-25 (IF:11.313. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:5/161)"
11. Yeh YM, Huang KY, Gan RRC, Huang HD, Wang TC, Tang P*. (2013) Phosphoproteome profiling of the sexually transmitted pathogen *Trichomonas vaginalis*. *J Microbiol Immunol* 46:366-373 (IF:2.955. MICROBIOLOGY:46/123)
12. Chen YC, Hsiao CC, Chen KD, Hung YC, Wu CY, Lie CH, Liu SF, Sung MT, Chen CJ, Wang TY, Chang JC, Tang P, Fang WF, Wang YH, Chung YH, Chao TY, Leung SY, Su MC, Wang CC, Lin MC (2013) Peripheral immune cell gene expression changes in advanced non-small cell lung cancer patients treated with first line combination chemotherapy. *PLoS ONE* 8(2):e57053-57069 (IF:3.057. MULTIDISCIPLINARY SCIENCES:11/63)
13. Wang LC*, Chen KY, Chang SH, Chung LY, Gan RCR, Cheng CL, Tang P* (2013) Transcriptome profiling of the fifth-stage larvae of *Angiostrongylus cantonensis* by next-generation sequencing.

- Parasitol Res 112(9):3193-3202 (IF:2.027. PARASITOLOGY:15/36)
14. Huang PJ#, Yeh YM#, Gan RCR, Lee CC, Chen TW, Lee CY, Liu H, Chen SJ*, Tang P* (2013) CPAP: Cancer Panel Analysis Pipeline. Hum Mutat 34(10):1340-1346 (IF:5.089. GENETICS & HEREDITY:23/165)
 15. Chang SH, Tang P, Lai CH, Kuo ML, Wang LC (2013) Identification and characterization of microRNAs in young adults of *Angiostrongylus cantonensis* by a deep-sequencing approach. Mem I Oswaldo Cruz 108(6): 699-706. (IF:1.592. TROPICAL MEDICINE:8/19)
 16. Chang SH, Tang P, Yen CM, Chow KP, Wang LC* (2014) A transcriptomic analysis on gene expressions in the infective third and pathogenic fifth larval stages of *Angiostrongylus cantonensis*. Parasitol Int 63(1):42-48 (IF:1.86. PARASITOLOGY:17/36)
 17. Huang KY, Chen YYM, Fang YK, Cheng WH, Cheng CC, Chen YC, Wu TE, Ku FM, Chen SC, Lin R, Tang P* (2014) Adaptive responses to glucose restriction enhance cell survival, antioxidant capability, and autophagy of the protozoan parasite *Trichomonas vaginalis*. BBA-Gen Subjects 1840(1):53–64 (IF:4.702. BIOPHYSICS:14/73)
 18. Yen HC, Li SL, Hsu C, Tang P. (2014) Interference of Co-amplified Nuclear Mitochondrial DNA Sequences on the Determination of Human mtDNA Heteroplasmy by Using the SURVEYOR Nuclease and the WAVE HS System. PLoS ONE 9(3)e92817 (IF:3.057. MULTIDISCIPLINARY SCIENCES:11/63)
 19. Chen TW, Li HP, Lee CC, Gan RC, Huang PJ, Wu TH, Lee CY, Chang YF, Tang P* (2014) ChIPseek, a web-based analysis tool for ChIP data. BMC Genomics 15:539-552 (IF:3.729. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:35/160)
 20. Wang FF, Chan W, Cho WC, Tang P, Yu J, Shyu CR, Tsui NBY, Wong SCC, Siu PM, Yip SP, Yung BYM ((2014) Novel Approach for Co-expression Analysis of E2F1–3 and MYC Target Genes in Chronic Myelogenous Leukemia. Biomed Res Int 10;2014:439840 (IF:2.134. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:81/161)
 21. Wang F, Chan LW, Law HK, Cho WC, Tang P, Yu J, Shyu CR, Wong SC, Yip SP, Yung BY* (2014) Exploring microRNA-mediated alteration of EGFR signaling pathway in non-small cell lung cancer using an mRNA:miRNA regression model supported by target prediction databases. Genomics 104(6 Pt B):504-11 (IF:2.386. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:67/161)
 22. Chen KY, Cheng CJ, Yen CM, Tang P, Wang LC* (2014) Comparative studies on the proteomic expression patterns in the third- and fifth-stage larvae of *Angiostrongylus cantonensis*. Parasitol Res 113(10):3591-600. (IF:2.027. PARASITOLOGY:15/36)
 23. Chou LF, Chen TW, Ko YC, Pan MJ, Tian YC, Chiu CH, Tang P, Hung CC, Yang CW (2014) Potential Impact on Kidney Infection: Whole Genome Analysis for *Leptospira santarosai* serovar Shermani. Emerg Microbes Infect 3(11):e82 (IF:4.012. MICROBIOLOGY:27/123)
 24. Huang PJ, Lee CC, Tan BCM, Yeh YM, Chu JLC, Chen TW, Lee CY, Gan RC, Liu H*, Tang P.* (2015) CMPD: Cancer Mutant Proteome Database. Nucleic Acids Res 43:D849-55 (IF:10.152. BIOCHEMISTRY & MOLECULAR BIOLOGY:18/289)
 25. Huang PJ, Lee CC, Yeh YM, Huang KY, Gan RC, Chen TW, Lee CY, Yang ST, Liao CS, Liu H*, Tang P.* (2015) Vanno: A Visualization-aided Variant Annotation Tool. Hum Mutat 36(2):167-74 (IF:5.089. GENETICS & HEREDITY:23/165)
 26. Fang YK, Huang KY, Huang PJ, Lin R, Chao M, Tang P* (2015) Gene expression analysis of cold-stress response in the sexually transmitted protist *Trichomonas vaginalis*. J Microbiol Immunol 48(6):662-75 (IF:2.955. MICROBIOLOGY:50/125)
 27. Weng KF, Hung CT, Hiej PT, Li ML, Chen GW, Kung YA, Huang PN, Kuo RL, Chen LL, Lin JY, Wang RYL, Chen SJ, Tang P, Horng JT, Huang I, Wang JR, Qjeius D, Brewer G, Shih SR (2015) A Cytoplasmic RNA Virus Generates Functional Viral Small RNAs and Regulates Viral IRES Activity in Mammalian Cells. Nucleic Acids Research 42(20):12789-805. (IF:9.202. BIOCHEMISTRY & MOLECULAR BIOLOGY:18/289)
 28. Chen WH, Huang KY, Huang PJ, Hsu JH, Fang YK, Chiu CH, Tang P* (2015) Nitric oxide maintains

- cell survival of *Trichomonas vaginalis* upon iron depletion. *Parasites & Vectors* 8(3):393 (IF:3.234. PARASITOLOGY:9/36)
29. Chen SJ, Liu H, Liao CT, Huang PJ, Huang Y, Hsu A, Tang P, Chang YS, Chen HC, Yen Tc (2015) Ultra-deep targeted sequencing of advanced oral squamous cell carcinoma identifies a mutation-based prognostic gene signature. *Oncotarget* 6(20):18066-18080. (IF:5.008. ONCOLOGY:36/213)
 30. Chen TW, Gan RC, Chang YF, Liao WC, Wu TH, Lee CC, Huang PJ, Lee CY, Chen YYM, Chiu CH, Tang P* (2015) Is the whole greater than the sum of its parts? De novo assembly strategies for bacterial genomes based on paired-end sequencing. *BMC Genomics* 16:648-659 (IF:3.729. BIOTECHNOLOGY & APPLIED MICROBIOLOGY: 35/160)
 31. Huang KY, Ku FM, Cheng WH, Lee CC, Huang PJ, Chu LCJ, Cheng CC, Fang YK, Wu HH, Tang P* (2015) Novel insights into the molecular events linking to cell death induced by tetracycline in the amitochondriate protozoan *Trichomonas vaginalis*. *Antimicrob Agents Chemother* 59(11):6891-903 (IF:4.302. PHARMACOLOGY & PHARMACY:36/257)
 32. Lin CC, Lee CC, Lin SH, Huang PJ, Li HP, Chang YS, Tang P*, Chao M* (2016) RNA recombination in Hepatitis delta virus: Identification of a novel naturally occurring recombinant. *J Microbiol Immunol* 10.1016/j.jmii.2015.10.013 (IF:2.955. MICROBIOLOGY:46/123)
 33. Chen YC, Chen TW, Su MC, Chen CJ, Chen KD, Liou CW, Tang P, Wang TY, Chang JC, Wang CC, Lin HC, Chin CH, Huang KT, Lin MC, Hsiao CC* (2016) Whole Genome DNA Methylation Analysis of Obstructive Sleep Apnea: IL1R2/ NPR2/ AR/ SP140 Methylation and Clinical Phenotype. *Sleep* 39(4):743-755 (IF:4.793. CLINICAL NEUROLOGY :23/192)
 34. Kao CM, Liao HY, Chien CC, Tseng YK, Tang P, Lin CE, Chen SC*. (2016) The change of microbial community from chlorinated solvent-contaminated ground water after biostimulation using the metagenome analysis. *J Hazard Mater* 302:144-50 (IF:4.836. ENVIRONMENTAL SCIENCES:19/225)
 35. Gan RC, Chen TW, Wu TH, Huang PJ, Lee CC, Yeh YM, Chiu CH, Huang HD, Tang P* (2016) PARRoT- A homology-based strategy to quantify and compare RNA-Sequencing from non-model organisms. *BMC Bioinformatics* 17(S19):513 (IF:2.448. MATHEMATICAL & COMPUTATIONAL BIOLOGY:10/57)
 36. Fang YK, Chien KY, Huang KY, Cheng WH, Ku FM, Lin R, Chen TW, Huang PJ, Chiu CH, Tang P* (2016) Responding to a zoonotic emergency with multi-omics research: Pentatrichomonas hominis hydrogenosomal protein characterization with use of RNA sequencing and proteomics. *OMICS: A Journal of Integrative Biology* 20(11): 662-669 (IF:2.896. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:51/161)
 37. Zhang JS, Sze DMY, Yung BYM, Tang P, Chen WJ, Chan KH, Leung PHM* (2016) Distinct expression of interferon-induced protein with tetratricopeptide repeats (IFIT) 1/2/3 and other antiviral genes between subsets of dendritic cells induced by dengue virus 2 infection. *Immunology*148(4):363-76 (IF:4.078. IMMUNOLOGY:44/151)
 38. Xie YT, Gao JM, Wu YP, Tang P, Hide G, Lai DH, Lun ZR (2017) Recombinant α -actinin subunit antigens of *Trichomonas vaginalis* as potential vaccine candidates in protecting against trichomoniasis. *Parasites & Vectors* 10(1):83 (IF:3.035. PARASITOLOGY:9/36)
 39. Sablok G*, Chen TW, Lee CC, Yang C, Gan RC, Varotto C, Porta NL, Nayak KC, Huang PJ, Wegrzyn JL, Tang P* (2017) ChloroMitoCU: Codon patterns across organelle genomes for functional genomics and evolutionary applications. *DNA Research* 24(3), 327–332 (IF:5.404. GENETICS & HEREDITY:22/167)
 40. Chen TW, Gan RC, Fang YK, Chien KY, Liao WC, Chen CC, Wu TH, Chang IY, Yang C, Huang PJ, Yeh YM, Chiu CH, Huang TW, Tang P* (2017) FunctionAnnotator, a versatile and efficient web tool for non-model organism annotation. *Scientific Reports*7(1):10430 (IF:4.259. MULTIDISCIPLINARY SCIENCES:10/64)
 41. Cheng WH, Huang KY, Huang PJ, Lee CC, Yeh YH, Ku FM, Lin R, Cheng ML, Chiu CH Tang P* (2017) Gamma-Carboxymuconolactone decarboxylase: a novel cell cycle-related basal body protein in the early branching eukaryote *Trichomonas vaginalis*. *Parasites & Vectors*26;10(1):443 (IF:3.035.

PARASITOLOGY:9/36)

42. Chen TW, Lee CC, Liu H, Wu CS, Pickering CR, Huang PJ, Wang J, Chang IY, Yeh YM, Chen CD, Li HP, Luo JD, Tan BC, Chan TEH, Hsueh C, Chu LJ, Chen YT, Zhang B, Yang CY, Wu CC, Hsu CW, See LC, Tang P, Yu JS, Liao WC, Chiang WF, Rodriguez H, Myers JN, Chang KP*, Chang YS (2017) APOBEC3A is an oral cancer prognostic biomarker in Taiwanese carriers of an APOBEC deletion polymorphism. *Nature Communications*8(1):465 (IF:12.124. MULTIDISCIPLINARY SCIENCES:3/64)
43. Bradic M, Warring SD, Tooley GE, Scheid P, Secor WE, Land KM, Huang PJ, Chen TW, Lee CC, Tang P, Sullivan SA, Carlton JM* (2017) Genetic Indicators of Drug Resistance in the Highly Repetitive Genome of *Trichomonas vaginalis*. *Genome Biol Evol.* 9(6):1658-1672 (IF:3.979. GENETICS & HEREDITY:42/167)
44. Huang PJ, Chiu LY, Lee CC, Yeh YM, Huang KY, Chiu CH, Tang P* (2018) mSignatureDB: a database for deciphering mutational signatures in human cancers. *Nucleic Acids Res* [accepted] (IF:10.162. BIOCHEMISTRY & MOLECULAR BIOLOGY:14/290)
45. Huang PJ, Lee CC, Chiu LY, Huang KY, Yeh YM, Yang CY, Chiu CH, Tang P.* (2018) VARepporter: Variant reporter for cancer research of massive parallel sequencing. *BMC Genomics* [accepted] (IF:3.729. BIOTECHNOLOGY & APPLIED MICROBIOLOGY:35/160)

Book chapters

C. Research Support

Ongoing Research Support

Mechanisms of iron dependent gene expression in *Trichomonas vaginalis*

MOST104-2320-B-182-025-MY3

2015/08/01~2018/7/31

Role: PI

Completed Research Support (2008-2015)

Expression profiling and functional characterization of *Trichomonas vaginalis* microRNA

NSC97-2320-B-182-011-MY3

2008/8/1~2011/7/31

Role: PI

Studies on the regulation of cell cycle by glucose restriction in *Trichomonas vaginalis*

NSC100-2320-B-182-015

2011/8/1~2012/7/31

Role: PI

The roles and regulation of autophagy on the survival of *Trichomonas vaginalis* under glucose restriction

MOST101-2320-B-182-025-MY3

2012/8/1~2015/7/31

Role: PI