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Distinguished Investigator  
and Director

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**Education**

- 1972  
B.S. in Mathematics,  
National Tsing-Hua University, Taiwan
- 1973  
M.A. in Statistics,  
Columbia University, U.S.A.
- 1975  
Ph.D. in Statistics,  
Columbia University, U.S.A.

**Professional Experiences**

- 2010/09-present  
Institute of Population Health Sciences, National Health Research  
Institutes, Taiwan  
Distinguished Investigator and Director
- 2008/9-2010/9  
Institute of Population Health Sciences, National Health Research  
Institutes, Taiwan  
Distinguished Investigator and Acting Director
- 2005-present  
Institute of Statistics and Department of Life Science, National Tsing-  
Hua University, Taiwan  
Adjunct Professor
- 2002-2014/7  
Division of Biostatistics and Bioinformatics, National Health Research  
Institutes, Taiwan  
Distinguished Investigator and Director
- 1998-1999  
Department of Research Resources, National Health Research  
Institutes, Taiwan  
Acting Director
- 1997-2001  
Division of Biostatistics, National Health Research Institutes, Taiwan  
Investigator and Founding Director
- 1995-1997  
Panel for Statistical Science, National Science Council, Taiwan  
Chair
- 1992-2004  
Statistical Center, Taiwan Cooperative Oncology Group, Taiwan  
Director
- 1989-1990  
Department of Statistics, Columbia University, U.S.A.

Visiting Professor

- 1985-2000  
Institute of Statistical Science, Academia Sinica, Taiwan  
Research Fellow,
- 1984-1985  
Department of Statistics, Stanford University, U.S.A.  
Visiting Scholar,
- 1981-1998  
Department of Mathematics, National Central University, Taiwan  
Professor
- 1976-1981  
Department of Mathematics, National Central University, Taiwan  
Associate Professor
- 1975-1976  
Department of Mathematics, Cornell University, U.S.A.  
Assistant Professor

#### Research Interests

Statistical genetics, genomics and genetic epidemiology. Aging, Bioinformatics and Biostatistics, Public health and translational Research

#### Research Activities & Accomplishment

Over 180 SCI papers (since 1998) and 2 book chapters in mathematical statistics, statistical genetics, genomics, epidemiology, and geriatric research

National Health Research Institutes-Institutional Repository:

<http://211.76.174.198/handle/3990099045/104>

#### Selected Publications

- Hsu WY, Tsai HJ, Yu SH, Hsu CC, Tsai YT, Tzeng HY, Lin IC, Liu K, Lee MM, Chiu NY\*, **Hsiung CA\***. "Association of depression and psychotropic medication on cardiac-related outcomes in a nationwide community-dwelling elderly population in Taiwan" *Medicine (Baltimore)*. 2016 Aug;95(31):e4419. (\*: Co-Corresponding Author)
- Tsai YA, Lin CL, Hou JW, Huang PC, Lee MC, Chen BH, Wu MT, Chen CC, Wang SL, Lee CC, **Hsiung CA\***, Chen ML\*; RAPIT Group. "Effects of high di(2-ethylhexyl) phthalate (DEHP) exposure due to tainted food intake on pre-pubertal growth characteristics in a Taiwanese population." *Environmental Research*. 2016 Aug; 149:197-205. (\*: Co-Corresponding Author)
- Tsai HJ, Wu CF, Tsai YC, Huang PC, Chen ML, Wang SL, Chen BH, Chen CC, Wu WC, Hsu PS, **Hsiung CA\***, Wu MT\*. "Intake of Phthalate-tainted Foods and Serum Thyroid Hormones in Taiwanese Children and Adolescents." *Scientific Reports*. 2016 Jul 29; 6:30589. (\*: Co-

Corresponding Author)

Tsai HJ, Chen BH, Wu CF, Wang SL, Huang PC, Tsai YC, Chen ML, Ho CK, **Hsiung CA\***, Wu MT\* "Intake of phthalate-tainted foods and microalbuminuria in children: The 2011 Taiwan food scandal." *Environment International*. 2016 Apr-May; 89-90:129-137. (\*: Co-Corresponding Author)

Chien LC. †, Wu YJ. †, **Hsiung CA.**, Wang LH. and Chang IS. "Smoothed Lexis diagrams with applications to lung and breast cancer trends in Taiwan" *Journal of the American Statistical Association* 2015, 110(511):1000-1012 (†The two authors are the joint first authors).

Chen KY, Hsiao CF, Chang GC, Tsai YH, Su WC, Chen YM, Huang MS, Tsai FY, Jiang SS, Chang IS, Chen CY, **Hsiung CA**<sup>+</sup>, Chen CJ, Yang PC,<sup>+</sup>. "Estrogen Receptor Gene Polymorphisms and Lung Adenocarcinoma Risk in Never-Smoking Women" *Journal of Thoracic Oncology* 2015 Oct; 10(10):1413-20. (+ These authors contributed equally to this work)

Huang HB, Chen HY, Su PH, Huang PC, Sun CW, Wang CJ, Chen HY, **Hsiung CA\***, Wang SL\*. "Fetal and Childhood Exposure to Phthalate Diesters and Cognitive Function in Children Up to 12 Years of Age: Taiwanese Maternal and Infant Cohort Study" *PLoS One*. 2015 Jun 29; 10(6):e0131910. (\* These authors contributed equally to this work)

Kamiza AB, Hsieh LL, Tang R, Chien HT, Lai CH, Chiu LL, Lo TP, Hung KY, Wang CY, You JF, **Hsiung CA\***, Yeh CC\* "Risk Factors Associated with Colorectal Cancer in a Subset of Patients with Mutations in MLH1 and MSH2 in Taiwan Fulfilling the Amsterdam II Criteria for Lynch Syndrome" *PLoS One*. 2015 Jun 8;10(6):e0130018. (\* These authors contributed equally to this work)

Liao YC, Chen YH, Lin HH, Mu JJ, Wu HS, Chen FC, **Hsiung CA\*** "Draft Genome Sequence of NDM-1-Producing *Klebsiella pneumoniae* Clinical Isolate 303K." *Genome Announcements*. 2013 Dec 19;1(6). pii: e01069-13.

Chang YH, Shiu MN, **Hsiung CA.\*** "Planning and evaluation in health workforce development: Projection for the pharmacy workforce in Taiwan." *J Formos Med Assoc*. 2013 Dec;112(12):733-4.

Wu IC, Chang HY, Hsu CC, Chiu YF, Yu SH, Tsai YF, Shen SC, Kuo KN, Chen CY, Liu K, Lee MM, **Hsiung CA\***. Association between Dietary Fiber Intake and Physical Performance in Older Adults: A Nationwide Study in Taiwan. *PLoS One*. 2013 Nov 11;8(11):e80209.

Chang WC, Yen C, Chi CL, Wu FT, Huang YC, Lin JS, Huang FC, Tate JE, Wu HS, **Hsiung CA\***. "Cost-effectiveness of rotavirus vaccination programs in Taiwan." *Vaccine*. 2013 Nov 4;31(46):5458-65.

Wu X, Wang L, Ye Y, Aakre JA, Pu X, Chang GC, Yang PC, Roth JA, Marks RS, Lippman SM, Chang JY, Lu C, Deschamps C, Su WC, Wang WC, Huang

MS, Chang DW, Li Y, Pankratz VS, Minna JD, Hong WK, Hildebrandt MA<sup>#</sup>, **Hsiung CA<sup>#</sup>**, Yang P.<sup>#</sup> "Genome-wide association study of genetic predictors of overall survival for non-small cell lung cancer in never smokers." *Cancer Research*. 2013 Jul 1;73(13):4028-4038. (# = these authors contributed equally to this work)

Chang CH, Hsiao CF, Yeh YM, Chang GC, Tsai YH, Chen YM, Huang MS, Chen HL, Li YJ, Yang PC, Chen CJ, **Hsiung CA<sup>+</sup>**, Su WC<sup>+</sup>. "Circulating Interleukin-6 level is a prognostic marker for survival in advanced non-small cell lung cancer patients treated with chemotherapy." *International Journal of Cancer*. 2013 May 1;132(9):1977-85. (+: contributed equally)

Wu Y, Waite LL, Jackson AU, Sheu WH, Buyske S, Absher D, Arnett DK, Boerwinkle E, Bonnycastle LL, Carty CL, Cheng I, Cochran B, Croteau-Chonka DC, Dumitrescu L, Eaton CB, Franceschini N, Guo X, Henderson BE, Hindorff LA, Kim E, Kinnunen L, Komulainen P, Lee WJ, Le Marchand L, Lin Y, Lindström J, Langaas-Holmen O, Mitchell SL, Narisu N, Robinson JG, Schumacher F, Stančáková A, Sundvall J, Sung YJ, Swift AJ, Wang WC, Wilkens L, Wilsgaard T, Young AM, Adair LS, Ballantyne CM, Bůžková P, Chakravarti A, Collins FS, Duggan D, Feranil AB, Ho LT, Hung YJ, Hunt SC, Hveem K, Juang JM, Kesäniemi AY, Kuusisto J, Laakso M, Lakka TA, Lee IT, Leppert MF, Matisse TC, Moilanen L, Njølstad I, Peters U, Quertermous T, Rauramaa R, Rotter JI, Saramies J, Tuomilehto J, Uusitupa M, Wang TD, Boehnke M, Haiman CA, Chen YD, Kooperberg C, Assimes TL, Crawford DC, **Hsiung CA<sup>+</sup>**, North KE<sup>+</sup>, Mohlke KL<sup>+</sup>. "Trans-ethnic fine-mapping of lipid Loci identifies population-specific signals and allelic heterogeneity that increases the trait variance explained." *PLoS Genetics*. 2013 Mar; 9(3):e1003379. (+: joint senior authors)

Chen KY<sup>#</sup>, Hsiao CF<sup>#</sup>, Chang GC, Tsai YH, Su WC, Chen YM, Huang MS, **Hsiung CA<sup>+</sup>**, Chen CJ, Yang PC<sup>+</sup>. "EGFR Polymorphisms, Hormone Replacement Therapy, and Lung Adenocarcinoma Risk: Analysis from a Genome-Wide Association Study in Never-smoking Women" *Carcinogenesis*. 2013 Mar; 34(3):612-9. (+: contributed equally, #: joint first authors)

Lan Q<sup>+</sup>, **Hsiung CA<sup>+</sup>**, Matsuo K, Hong YC, Seow A, Wang Z, Hosgood HD 3rd, Chen K, Wang JC, Chatterjee N, Hu W, Wong MP, Zheng W, Caporaso N, Park JY, Chen CJ, Kim YH, Kim YT, Landi MT, Shen H, Lawrence C, Burdett L, Yeager M, Yuenger J, Jacobs KB, Chang IS, Mitsudomi T, Kim HN, Chang GC, Bassig BA, Tucker M, Wei F, Yin Z, Wu C, An SJ, Qian B, Lee VH, Lu D, Liu J, Jeon HS, Hsiao CF, Sung JS, Kim JH, Gao YT, Tsai YH, Jung YJ, Guo H, Hu Z, Hutchinson A, Wang WC, Klein R, Chung CC, Oh IJ, Chen KY, Berndt SI, He X, Wu W, Chang J, Zhang XC, Huang MS,

Zheng H, Wang J, Zhao X, Li Y, Choi JE, Su WC, Park KH, Sung SW, Shu XO, Chen YM, Liu L, Kang CH, Hu L, Chen CH, Pao W, Kim YC, Yang TY, Xu J, Guan P, Tan W, Su J, Wang CL, Li H, Sihoe AD, Zhao Z, Chen Y, Choi YY, Hung JY, Kim JS, Yoon HI, Cai Q, Lin CC, Park IK, Xu P, Dong J, Kim C, He Q, Perng RP, Kohno T, Kweon SS, Chen CY, Vermeulen R, Wu J, Lim WY, Chen KC, Chow WH, Ji BT, Chan JK, Chu M, Li YJ, Yokota J, Li J, Chen H, Xiang YB, Yu CJ, Kunitoh H, Wu G, Jin L, Lo YL, Shiraishi K, Chen YH, Lin HC, Wu T, Wu YL, Yang PC, Zhou B, Shin MH, Fraumeni JF Jr, Lin D, Chanock SJ, Rothman N. " Genome-wide association analysis identifies new lung cancer susceptibility loci in never-smoking women in Asia" *Nature Genetics* 2012 Nov; 44(12):1330-5. (contributed equally with the first author)

Lin CH, Lian CY, **Hsiung CA\***, and Chen FC\*. 2011." Changes in transcriptional orientation are associated with increases in evolutionary rates of enterobacterial genes" *BMC Bioinformatics* 2011 Oct 5; 12 (Suppl 9):S19.

Liao YC, Chen JC, Tsai MH, Tang YH, Chen FC\*, **Hsiung CA\*** "MrBac: A web server for draft metabolic network reconstructions for bacteria." *Bioengineered Bugs*. 2011 Sep 1; 2(5):284-7.

Liao YC, Huang TW, Chen FC, Charusanti P, Hong JS, Chang HY, Tsai SF, Palsson BO, **Hsiung CA\***. "An experimentally validated genome-scale metabolic reconstruction of *Klebsiella pneumoniae* MGH 78578, iYL1228." *Journal of Bacteriology*. 2011 Apr;193(7):1710-7.

Lo YL, Hsiao CF, Jou YS, Chang GC, Tsai YH, Su WC, Chen KY, Chen YM, Huang MS, Hsieh WS, Chen CJ, **Hsiung CA.\***, "Polymorphisms of MLH1 and MSH2 genes and the risk of lung cancer among never smokers." *Lung Cancer*. 2011 Jun;72(3):280-6.

Liao YC, Chen FC, **Hsiung CA\***. "Contrasting substitution patterns between HA proteins of avian and human influenza viruses: Implication for monitoring human influenza epidemics. *Vaccine*. 2010 Nov 23;28(50):7890-6.

Tsai HJ, Hsiao CF, Ho LT, Chuang LM, He CT, Curb JD, Quertermos T, **Hsiung CA\***, Sheu WH. "Genetic variants of human urea transporter-2 are associated with metabolic syndrome in Asian population." *Clinica Chimica Acta*.. 2010 Dec 14;411(23-24):2009-13.

Chiu YF, Chuang LM, Kao HY, Shih KC, Lin MW, Lee WJ, Quertermos T, Curb JD, Chen I, Rodriguez BL, **Hsiung CA.\*** "Sex-specific genetic architecture of human fatness in Chinese: the SAPPHiRe Study" *Human Genetics*. 2010 Nov;128(5):501-13.

Lo YL, Hsiao CF, Jou YS, Chang GC, Tsai YH, Su WC, Chen YM, Huang MS, Chen HL, Yang PC, Chen CJ, **Hsiung CA\*** "ATM polymorphisms, environmental tobacco smoke (ETS) exposure and risk of lung cancer

among never smokers" *Lung Cancer*, 2010 Aug;69(2):148-54.

Chien LC., Chang IS., Jiang SS., Gupta PK., Wen CC., Wu YJ. and **Hsiung CA\***  
"Profiling Time Course Expression of Virus Genes—An Illustration of Bayesian Inference Under Shape Restrictions" *Annals of Applied Statistics*. 2009 Dec;3(4):1542-1565.

Liao YC, Ko CY, Tsai MH, Lee MS, **Hsiung CA\*** "ATIVS: analytical tool for influenza virus surveillance." *Nucleic Acids Research*. 2009 May; 37(Web Server issue):W643-646

Chang IS., Fu SJ., Chen CH., Wang TH., **Hsiung CA\*** "Estimating Temporal Transmission Parameters from Infectious Disease Household Data, with Application to Taiwan SARS Data" *Statistics in Biosciences* 2009 Jun;1:80-94

Chang CH, Hsiao CF, Chang GC, Tsai YH, Chen YM, Huang MS, Su WC, Hsieh WS, Yang PC, Chen CJ, **Hsiung CA\*** "Interactive Effect of Cigarette Smoking With Human 8-Oxoguanine DNA N-Glycosylase 1 (hOGG1) Polymorphisms on the Risk of Lung Cancer: A Case-Control Study in Taiwan" *American Journal of Epidemiology*. 2009 Sep; 170(6):695-702

Lo YL, Jou YS, Hsiao CF, Chang GC, Tsai YH, Su WC, Chen KY, Chen YM, Huang MS, Hu CY, Chen CJ, **Hsiung CA\*** "A Polymorphism in the *APE1* Gene Promoter is Associated with Lung Cancer Risk" *Cancer Epidemiology, Biomarkers & Prevention*, 2009 Jan; 18(1):223-229.

Jou YS, Lo YL, Hsiao CF, Chang GC, Tsai YH, Su WC, Chen YM, Huang MS, Chen HL, Chen CJ, Yang PC, **Hsiung CA.\*** "Association of an EGFR Intron 1 SNP with nonsmoking female lung adenocarcinoma patients" *Lung Cancer*. 2009 Jun; 64(3):251-6.

Liao YC, Lee MS, Ko CY, **Hsiung CA.\*** "Bioinformatics models for predicting antigenic variants of influenza A/H3N2 virus." *Bioinformatics*. 2008 Feb; 24(4):505-12

Chang, IS., Chien LC., **Hsiung CA.\*** "Discussion on "Modeling and predicting extrapolated probabilities with outlooks" *Statistica Sinica*, 2008 Jan;18(1):40-43

Chang, I.S., Chien LC, **Hsiung, C.A\***, Wen, C.C. and Wu, Y. J., (2007) "Shape restricted regression with random Bernstein Polynomials" IMS Lecture Notes - Monograph Series, 54:187-202.

Hsiao CF, Chiu YF, Chiang FT, Ho LT, Lee WJ, Hung YJ, Chen YD, Donlon TA, Jorgenson E, Curb D, Risch N, **Hsiung CA,\*** (2006)" Genome-wide linkage analysis of lipids in non-diabetic Chinese and Japanese from the SAPPHERE family study", *American Journal of Hypertension*, 19(12):1270-1277

Wang WC, Chang IS, Chang CH, Curb D, Ho LT, **Hsiung CA.\*** (2006)" Incorporating endophenotypes into allele-sharing based linkage tests", *Genet Epidemiol*. 30(2):133-42

	Patent
	<ul style="list-style-type: none"><li data-bbox="501 170 1007 297">• <b>Cross-species nucleic acid probes</b> I286573, R.O.C (2007) Juang, J.L., Hsiung, C.A., Lin, C.Y.</li><li data-bbox="501 315 1401 488">• <b>Apparatus and methods for computer aided primer design and compositions for detection of the SARS Coronavirus</b> I293090, R.O.C (2008) Lin, C.Y., Lo, C.Z., Cho, C.S., Yang, J.Y. and Hsiung ,C.A.</li></ul>