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Education

- 1983
B.S. in Applied Mathematics
National Tsing-Hua University
- 1988
M.S. in Mathematical Statistics
University of North Carolina— Chapel Hill, USA
- 1993
Ph. D. in Biostatistics
University of North Carolina— Chapel Hill, USA

Professional Experiences

- 2014/7-present
Division of Biostatistics and Bioinformatics, Institute of Population Health Sciences, National Health Research Institutes, Taiwan
Investigator
- 2020/1-present
Research Center for Environmental Medicine, Kaohsiung Medical University, Taiwan.
Joint Investigator
- 2019/8-present
Institute of Environmental and Occupational Health Sciences, College of Public Health, National Taiwan University
Adjunct Professor
- 2006/8-2014/6
Division of Biostatistics and Bioinformatics, Institute of Population Health Sciences, National Health Research Institutes, Taiwan
Associate Investigator
- 2010/9-2019/7
Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University
Adjunct Associate Professor
- 2008/9-2010/8
Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taiwan
Joint Associate Professor
- 2002/8-2006/7
Department of Mathematics, Tamkang University, Taiwan
Professor
- 1993/9-2002/7

Department of Mathematics, Tamkang University, Taiwan

Associate Professor

Research Interests

Environmental health risk assessment, exposure assessment, biostatistics, epidemiology, climate change

Research Activities & Accomplishment

Over 40 SCI papers (since 1997) in statistics, biostatistics, environmental health risk assessment, exposure assessment, and epidemiology

Associate Editor (2014–present): *Stochastic Environmental Research and Risk Assessment*

Statistical Editor (2011-2014): *Asia Pacific Journal of Clinical Nutrition*

National Health Research Institutes-Institutional Repository:

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

Selected Publications

Chuang SC, Chen HC, Sun CW, Chen YA, Wang YH, Chiang CJ, **Chen CC**, Wang SL, Chen CJ, Hsiung CA. Phthalate exposure and prostate cancer in a population-based nested case-control study. *Environmental Research* 2020, to appear.

***Chen CC**, Lee CP, Yan YH, Cheng TJ, *Sen PK. A partial likelihood-based two-dimensional multistate Markov model with application to myocardial infarction and stroke recurrence. *Sankhya, Series B* 2020, to appear.

***Chen CC**, Wang YH, Chen WJ, Hsiung CA, Guo YLL, *Wang SLJ. A benchmark dose study of prenatal exposure to di(2-ethylhexyl) phthalate and behavioral problems in children. *International Journal of Hygiene and Environmental Health* 2019, 222:971–980.

***Chen CC**, Wang YR, Guo LYL, Wang YC, *Lu MM. Short-term prediction of extremely hot days in summer due to climate change and ENSO and related attributable mortality. *Science of the Total Environment* 2019, 661, 10-17.

***Chen CC**, Wang YH. Benchmark dose calculation for ordered categorical responses with multiple endpoints. *Stochastic Environmental Research and Risk Assessment* 2019, 33(2):535–543.

Hsieh TJ, Chang HY, Wu IC, **Chen CC**, Tsai HJ, Chuang SC, Hsiung CA, Hsu CC.

Independent association between subject cognitive decline and frailty in the elderly. *PLoS ONE* 2018, 13(8):0201351.

Chuang HC, Lin YJ, Chou CCK, Hwang JS, **Chen CC**, Yan YH, Hsieh HI, Chuang KJ, Cheng TJ. Alterations in cardiovascular function by particulate matter in rats using a crossover design. *Environmental Pollution* 2017; 231:812–820.

***Chen CC**, Wang YH, Wang SL, Huang PC, Chaung SC, Chen MH, Chen BH, Sun CW, Fu HC, Lee CC, Wu MT, Chen ML, *Hsiung CA. Exposure sources and their relative attributions to urinary phthalate metabolites among children in Taiwan. *International Journal of Hygiene and Environmental Health* 2017; 220:869–879.

Wen HJ, **Chen CC**, Wu MT, Chen ML, Sun CW, Wu WC, Huang IW, Huang PC, Yu TY, Hsiung CA, Wang SL, RAPIT group. Phthalate exposure and reproductive hormones and sex-hormone binding globulin before puberty - Phthalate Contaminated-foodstuff Episode in Taiwan. *PLoS ONE* 2017; 12(4):e0175536.

Huang PC, Tsai CH, **Chen CC**, Wu MT, Chen ML, Wang SL, Chen BH, Lee CC, Jaakkola JJK, Wu WC, Chen MK, Hsiung CA, RAPIT Group. Intellectual evaluation of children exposed to phthalate-tainted products after the 2011 Taiwan Phthalate Episode. *Environmental Research* 2017; 156:158–166.

Hsu CC, Chang HY, Wu IC, **Chen CC**, Tsai HJ, Chiu YF, Chaung SC, Lee M, Chen YDI, Liu K, Hsiung CA. Cohort Profile: The Healthy Aging Longitudinal Study in Taiwan (HALST). *International Journal of Epidemiology* 2017; 46(1):1106-1106j.

***Chen CC**, Liu K, Hsu CC, Chang HY, Chung HC, Liu JS, Liu YH, Tsai TL, Liaw WJ, Lin IC, Wu HW, Juan CC, Chiu HC, Lee MM, *Hsiung CA. Healthy lifestyle and normal waist circumference are associated with a lower 5-year risk of type 2 diabetes in middle-aged and elderly individuals: Results from the Healthy Aging Longitudinal Study in Taiwan (HALST). *Medicine* 2017, 96(6):e6025.

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 Report*. 2016 Jul 29;6:30589. doi: 10.1038/srep30589.

Wu CF, Shen FH, Li YR, Tsao TM, Tsai MT, **Chen CC**, Hwang JS, Hsu SHJ, Chao H, Chuang KJ, Chou CCK, Wang YN, Ho CC, Su TC. Association of short-term exposure to fine particulate matter and nitrogen dioxide with acute cardiovascular effects. *Science of the Total Environment* 2016; 569–570:300–305.

Tsai YA, Lin CL, Hou JW, Huang PC, Lee MC, Chen BH, Wu MT, **Chen CC**, Wang SL, Lee CC, Hsiung CA, Chen ML. 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; 149: 197–205.

***Chen CC**, Wang SL, Wu MT, Wang YH, Huang PC, Chen BH, Sun CW, Ho CK, Shih YC, Shiu MN, Pan WH, Chen ML, Lee CC, *Hsiung CA. Exposure estimation for risk assessment of the phthalate incident in Taiwan. *PLoS ONE* 2016; 11(3):e0151070.

Hou JW, Lin CL, Tsai YA, Chang CH, Liao KW, Yu CJ, Yang W, Lee MJ, Huang PC, Sun CW, Wang YH, Lin FR, Wu WC, Lee MC, Pan WH, Chen BH, Wu MT, **Chen CC**, Wang SL, Lee CC, Hsiung CA, Chen ML. The effects of phthalate and nonylphenol exposure on body size and secondary sexual characteristics during puberty. *International Journal of Hygiene and Environmental Health* 2015; 218(7):603–615.

Tsai HJ, Lin SF, **Chen CC**, Chen TY, Su WC, Hwang WL, Lin JC, Chiou TJ, Kao WY, Chiu CF, Chang YF, Chang JS, Chang MC, Su IJ. Long term results of a phase II trial with front-line concurrent chemoradiotherapy followed by consolidation chemotherapy for localized nasal natural killer/T-cell lymphoma. *European Journal of Haematology* 2015; 94(2):130–137.

Wu CF, Lin HI, Ho CC, Yang TH, **Chen CC**, Chan CC. Modeling horizontal and vertical variation in intraurban exposure to PM_{2.5} concentrations and compositions. *Environmental Research* 2014; 133c:96–102.

***Chen CC**, Wang YH. Estimation of the exposure of the U.K. population to the bovine spongiform encephalopathy agent through dietary intake during the period 1980 to 1996. *PLoS ONE* 2014; 9(4): e94020.

***Chen CC**, Chen J J. Benchmark dose calculation for ordered categorical responses. *Risk Analysis* 2014; 34(8):1435–1447.

***Chen CC**, Wang YH, *Wu KY. Consumption of bovine spongiform

encephalopathy contaminated beef and variant Creutzfeldt-Jakob incidence. *Risk Analysis* 2013; 33:1958–1968.

***Chen CC**, *Wu CF, Yu HL, Chan CC, Cheng TJ. Spatiotemporal modeling with temporal-invariant variogram subgroups to estimate fine particulate matter PM2.5 concentrations. *Atmospheric Environment* 2012; 54:1–8.

Chen BY, Chan CC, Lee CT, Huang WC, Jhou JC, Han YY, **Chen CC**, Cheng TJ, Guo YL. Effects of ambient air pollution on airway inflammatory in schoolchildren. *American Journal of Epidemiology*. 2012; 175(8):764–774.

Wang WS, Wahlqvist ML, Hsu CC, Chang HY, Chang WC, ***Chen CC**. Age and gender attribution of obesity-related metabolic disorders for six-year all-cause and cause-specific mortality in Taiwanese. *BMC Public Health* 2012; 12:111.

Chen CC, Sen PK, Wu KY. Robust permutation tests for homogeneity of fingerprint patterns of dioxin congener profiles. *Environmetrics* 2012; 23: 285–294.

***Chen CC**, Shih MC, Wu KY. Environmental exposure reconstruction using repeated metabolite measurements in urine- An example with inhalation of trichloroethylene. *Stochastic Environmental Research and Risk Assessment* 2012; 26(1):21–31.

***Chen CC**, Wu KY, Chang-Chien GP. Point source identification using a simple permutation test: a case study of elevated PCDD/F levels in ambient air and soil and their relation to the distance to a local municipal solid waste incinerator. *Stochastic Environmental Research and Risk Assessment* 2011; 25:929–937.

Wang IJ, **Chen CC**†, Chan CC, Chen PC, Leonardi G, Wu KY. A hierarchical Bayesian approach for risk assessment of melamine in infant formula based on cases of related nephrolithiasis in children. *Food Additives & Contaminants, Part A- Chemistry, Analysis, Control, Exposure & Risk Assessment* 2011; 28(4):384–395. (†: Equal contribution with 1st author).

Chen BY, Chao HJ, Chan CC, Lee CT, Wu HP, Cheng TJ, **Chen CC**, Guo YL. Effects of fine particulates and fungal spores on lung function in

schoolchildren. *Pediatrics* 2011; 127(3):E690–E698.

Huang YF, Wu KY, Liou SH, Uang SN, **Chen CC**, Shih WC, Lee SC, Huang CCJ, Chen ML. Biological monitoring for occupational acrylamide exposure from acrylamide production workers. *International Archives of Occupational and Environmental Health* 2011; 84:303–313.

Wahlqvist ML, Chang HY, **Chen CC**, Hsu CC, Chang WC, Wang WS, Hsiung CA. Is impaired energy regulation the core of the metabolic syndrome in various ethnic groups of the USA and Taiwan? *BMC Endocrine Disorders*, 2010; 10:11.

***Chen CC**, Shih MC, Wu KY. Exposure estimation using repeated blood concentration measurements. *Stochastic Environmental Research and Risk Assessment* 2010; 24(3):445–454.

***Chen CC**, Wang WS, Chang HY, Liu JS, Chen YJ. Heterogeneity of body mass index, waist circumference, and waist-hip ratio in predicting obesity-related metabolic disorders for Taiwanese aged 35-64. *Clinical Nutrition* 2009; 28:543–548.

***Chen CC**, Chuang CL, Wu KY, Chan CC. Sampling strategies for occupational exposure assessment under generalized linear model. *Annals of Occupational Hygiene* 2009; 53(5):509–521.

***Chen CC**, Shih MC, Wu KY, Sen PK. Exterior exposure estimation using a one-compartment toxicokinetic model with blood sample measurements. *Journal of Mathematical Biology* 2008; 56(5):611–633.

***Chen CC**. Extended rank analysis of covariance adjusting for local correlations. *Computational Statistics and Data Analysis* 2008; 52(3): 1399–1412.

***Chen CC**, Wu KY, Balakrishnan N. Two-sample scale tests for comparison of metabolic rates for styrene in previously exposed and unexposed groups. *Statistics in Medicine* 2004; 23:591–599.

Chen CC, Wu KY, Chang WMJ. A statistical assessment on the stochastic relationship between biological measurement and environmental exposure. *Stochastic Environmental Research and Risk Assessment* 2004; 18:377–385.

***Chen CC**, Cheng MC, Wu KY, Cheng TJ, Chang WMJ. Statistical analysis and application of physiologically-based pharmacokinetic models- An

example with VCM exposure. *Journal of the Chinese Statistical Association* 2001; 39(4):363–377. (In Chinese)

***Chen CC.** Rank analysis of covariance as a more efficient matched analysis considering trend information. *Biometrical Journal* 2001; 43(7): 895–907.

***Chen CC.** Rank estimating equations for random effects models. *Statistics and Probability Letters*, 2001; 54:5–12.

***Chen CC, Hsieh F.** Rank estimating equations for partial spline models with monotonicity. *Statistica Sinica* 1999; 9(1):199–210.

***Chen CC.** Rank transformations when covariables are measured with error or mismodelled. *Communications in Statistics-Theory and Methods* 1997; 26(12):2967–2982.

Patent