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PhD**

Assistant Investigator  
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**Education**

- 2000  
M.D.,  
National Cheng Kung University, Taiwan
- 2008  
M.S. in Medical Science,  
National Cheng Kung University, Taiwan
- 2016  
Ph.D. in Aging,  
China Medical University, Taiwan.

**Professional Experiences**

- 2017/07- present  
Institute of Population Health Sciences, National Health Research Institutes  
Assistant Investigator/Attending Physician
- 2011/04-2017/06  
Institute of Population Health Sciences, National Health Research Institutes, Taiwan  
Attending physician
- 2009  
Department of Genomics for Longevity and Health, Tokyo Metropolitan Institute of Gerontology, Japan  
Research Fellow
- 2007- 2010  
Department of Internal Medicine, National Cheng Kung University Hospital, Taiwan  
Attending physician
- 2006- 2007  
Department of Internal Medicine, National Cheng Kung University Hospital, Taiwan  
Chief Resident
- 2002- 2005  
Department of Internal Medicine, National Cheng Kung University Hospital, Taiwan  
Resident

**Research Interests**

General internal medicine, geriatric medicine, aging, epidemiology, public health.

**Research Activities & Accomplishment**

The primary area of research is the study of physical functioning and frailty. As an extreme phenotype of aging, frailty featuring impaired

physical functioning represents a state of increased vulnerability to multiple poor health statuses at an advanced age. We are attempting to characterize this phenotype at various levels, including biology, physiology, psychology, and lifestyle. These works will form the basis of elucidating barriers to achieving healthy aging in our population and pave the way toward novel intervention strategies.

#### Selected Publications

**Wu IC\***, Hsu,CC, Chen CY, Chuang SC, Cheng CW, Hsieh WS, Wu MS, Liu YT, Liu YH, Tsai TL, Lin CC, Hsiung CA. Paradoxical relationship between glycosylated hemoglobin and longitudinal change in physical functioning in older adults: prospective cohort study. *J Gerontol A Biol Sci Med Sci*, 2018. doi:10.1093/gerona/gly147.

Hsieh TJ, Chang HY, **Wu IC**, Chen CC, Tsai HJ, Chiu YF, Chuang SC, Hsiung CA, Hsu CC. Independent association between subjective cognitive decline and frailty in the elderly. *PLoS ONE*. 2018;13(8): e0201351.

Hsu CC, Wahlqvist ML, **Wu IC**, Chang YH, Chang IS, Tsai YF, Liu TT, Tsao CK, Hsiung CA. Cardiometabolic disorder reduces survival prospects more than suboptimal body mass index irrespective of age or gender: a longitudinal study of 377,929 adults in Taiwan. *BMC Public Health* 2018;18:142.

Chen CJ, Juang JJ, Chen YH, **Wu IC**, Hsu CC, Wu RC, Chen KC, Liaw WJ, Tsai TL, Lin LY, Hwang JJ, Ho LT, Yu CC, Lee JK, Wu CK, Yeh SS, Yang DH, Chang IS, Lai LP, Chiang FT, Lin JL, Hsiung CA. Comparisons of clinical impacts on individuals with Brugada electrocardiographic patterns defined by ISHNE criteria or EHRA/HRS/APHRs criteria: A nationwide community-based study. *Annals of Medicine*. 2018 Feb;50(1):7-15.

Chen CH, Wu MS, **Wu IC\***. Vaccination coverage and associated factors for receipt of the 23-valent pneumococcal polysaccharide vaccine in Taiwan: A nation-wide community-based study. *Medicine (Baltimore)*. 2018 Feb;97(5):e9773. doi: 10.1097/MD.0000000000009773.

Chen CH, Wu MS, Hsu WY, Chen YM, Hsu CC, Hsiung CA, **Wu IC\***. Determinants of influenza vaccination in older adults: A nationwide community-based study in Taiwan. *Geriatr Gerontol Int*. 2017 Jul 28. doi: 10.1111/ggi.13088.

**Wu IC**, Lin CC, Liu CS, Hsu CC, Chen CY, Hsiung CA\*. Interrelations between Mitochondrial DNA Copy Number and Inflammation in Older Adults. *J Gerontol A Biol Sci Med Sci*. 2017 Jul 1;72(7):937-944. DOI: 10.1093/gerona/glx033.

Hsu CC, Chang HY, **Wu IC**, Chen CC, Tsai HJ, Chiu YF, Chuang SC, Hsiung WC, Tsai TL, Liaw WJ, Lin IC, Shen SC, Juan CC, Lien LM, Lee M, Chen

YDI, Liu K, Hsiung CA\*. Cohort profile: The healthy aging longitudinal study in Taiwan (HALST). *Int J Epidemiol* 2017. DOI: 10.1093/ije/dyw331.

Fernández-Rhodes L, Gong J, Haessler J, Franceschini N, Graff M, Nishimura KK, Wang Y, Highland HM, Yoneyama S, Bush WS, Goodloe R, Ritchie MD, Crawford D, Gross M, Fornage M, Buzkova P, Tao R, Isasi C, Avilés-Santa L, Daviglus M, Mackey RH, Houston D, Gu CC, Ehret G, Nguyen KDH, Lewis CE, Leppert M, Irvin MR, Lim U, Haiman CA, Le Marchand L, Schumacher F, Wilkens L, Lu Y, Bottinger EP, Loos RJL, Sheu WHH, Guo X, Lee WJ, Hai Y, Hung YJ, Absher D, **Wu IC**, Taylor KD, Lee IT, Liu Y, Wang TD, Quertermous T, Juang JMJ, Rotter JI, Assimes T, Hsiung CA, Chen YDI, Prentice R, Kuller LH, Manson JE, Kooperberg C, Smokowski P, Robinson WR, Gordon-Larsen P, Li R, Hindorff L, Buyske S, Matisse TC, Peters U, North KE. Trans-ethnic fine-mapping of genetic loci for body mass index in the diverse ancestral populations of the Population Architecture using Genomics and Epidemiology (PAGE) Study reveals evidence for multiple signals at established loci. *Human Genetics*. 2017 Jul;136(6):771-800.

Chuang SC, Chen HL, Tseng WT, **Wu IC**, Hsu CC, Chang HY, Chen YDI, Lee MM, Liu K, and Hsiung CA. Circulating 25-hydroxyvitamin D and physical performance in older adults: a nationwide study in Taiwan. *The American Journal of Clinical Nutrition*. 2016; 104(5),1334-1344.

**Wu IC**, Lin CC, Hsiung CA. Emerging roles of frailty and inflammaging in risk assessment of age-related chronic diseases in older adults: the intersection between aging biology and personalized medicine. *Biomedicine*. 2015;5(1):1. Epub 2015 Feb 2.

Juang JM, Chen CY, Chen YH, **Wu IC**, Hsu CC, Chen LN, Tang FC, Wang CC, Juan CC, Chiu HC, Lo HM, Chang IS, Hwang JJ, Lai LP, Chiang FT, Lin JL, Hsiung CA\*. Prevalence and prognosis of Brugada electrocardiogram patterns in an elderly Han Chinese population: a nation-wide community-based study (HALST cohort). 2015; *Europace*, 17(Suppl. 2), ii54-ii62.

Wanqing Wen, Wei Zheng, Yukinori Okada, Fumihiko Takeuchi, Yasuharu Tabara, Joo-Yeon Hwang, Rajkumar Dorajoo, Huaixing Li, Fu-Jen Tsai, Xiaobo Yang, Jiang He, Ying Wu, Meian He, Yi Zhang, Jun Liang, Xiuqing Guo, Wayne Huey-Herng Sheu, Ryan Delahanty, Xingyi Guo, Michiaki Kubo, Ken Yamamoto, Takayoshi Ohkubo, ---, Chao Agnes Hsiung, **I-Chien Wu**, Jyh-Ming Jimmy Juang, Jiajun Shi<sup>1</sup>, Bo You Choi, Tin Aung, Frank Hu, Mi Kyung Kim, Wei Yen Lim, Tzung-Dao Wang, Min-Ho Shin, Jeannette Lee, Bu-Tian Ji, Young-Hoon Lee, Terri L. Young, Dong Hoon Shin, Byung-Yeo Chun, Myeong-Chan Cho, Bok-Ghee Han, Chii-Min Hwu, Themistocles L. Assimes, Devin Absher, Xiaofei Yan, Eric

Kim, Jane Z. Kuo, Soonil Kwon, Kent D. Taylor, Yii- Der I. Chen, Jerome I. Rotter, Lu Qj, Dingliang Zhu, Tangchun Wu, Karen L. Mohlke, Dongfeng Gu, Zengnan Mo, Jer-Yuarn Wu, Xu Lin, Tetsuro Miki, E. Shyong Tai, Jong-Young Lee, Norihiro Kato, Xiao-Ou Shu, and Toshihiro Tanaka. (2014, Oct). Meta-analysis of genome-wide association studies in East Asian-ancestry populations identifies four new loci for body mass index. *Human Molecular Genetics*, 23(20), 5492-5504.

**Wu IC**, Hsiung CA, Chang IS, Wu MS, Chang YH, Hsu CC. Personal mastery, multisystem physiological dysregulation and risk of functional decline in older adults: a prospective study in Taiwan. *Geriatr Gerontol Int*. 2014. doi: 10.1111/ggi.12334

**Wu IC**, Lin CC, Hsiung CA, Wang CY, Wu CH, Chan DC, Li TC, Lin WY, Huang KC, Chen CY, Hsu CC for the Sarcopenia and Translational Aging Research in Taiwan (START) Team. Epidemiology of sarcopenia among community-dwelling older adults in Taiwan: a pooled analysis for a broader adoption of sarcopenia assessments. *Geriatr Gerontol Int* 2014; 14 Suppl 1:52-60.

**Wu IC**, Hsiung Chao A., Hsu Chih-Cheng, Lin XZ. Oxidative stress and frailty: a closer look at the origin of a human aging phenotype. In: Preedy VR, ed. *Aging: Oxidative Stress and Dietary Antioxidants*. London: Academic Press; 2014.

**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; 8(11): e80209.

**Wu IC**, Lin XZ, Liu PF, Tsai WL and Shiesh SC. Low serum testosterone and frailty in older men and women. *Maturitas* 2010; 67(4):348-52.

**Wu IC**, Ohsawa I, Fuku N, Tanaka M. Metabolic analysis of <sup>13</sup>C-labeled pyruvate for non-invasive assessment of mitochondrial function. *Ann N Y Acad Sci*. 2010; 1201:111-120.

**Wu IC**, Shiesh SC, Kuo PH, and Lin XZ. High oxidative stress is correlated with frailty in elderly Chinese. *Journal of the American Geriatrics Society* 2009; 57(9):1666-1671.