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Biography 講者介紹

Dr. Tangchun Wu is tenured professor of Occupational and Environmental Health, School of Public Health, dean of Tongji Medical College, Huazhong University of Science & Technology (HUST), and National Outstanding Young Investigator, the Yangzi Scholarship and Principal Investigator (PI) of a 973 Program (the National Key Basic Research and Development Program). He graduated with a major in Preventive Medicine in 1988 and received his PhD in 1993 from Tongji Medical University. Dr. Wu's research is mainly focused on effects of air pollution, genetic, epigenetic and their interaction on heat shock proteins, and such environment-related diseases as cardiovascular disease and lung cancer. Currently he is leading a project to investigate health hazards caused by ambient particulate matter and serves as PI of the Dongfeng-Tongji Cohort (sample size: 40,000) and Huazhong Prospective Cohort for Chronic Diseases (sample size: 120,000) supported by National Key Program of Research and Development of China. He has published over 400 original papers (290 of them published in SCI-collected journals such as *Nature*, *JAMA*, *J Clin Oncol*, *Circulation*, *Lancet Glob Health*, *Cir Res*, *Environ Health Perspect*, *PloS Med*, *GUT* and *Nature Genetics*). His results had given the evidence for modifying WHO, IRAC and many countries' criteria and guidance. Dr. Wu has served as Chair, co-Chair, or keynote speaker at International Conferences on Occupational and Environmental Health, and Cell Stress. He had also served as selected, present, past President of Cell Stress Society International and editors of Environ Health Perspect etc. Dr. Wu is the recipient of the National Second Awards of both Natural Science and Scientific Advancement for his research. He was selected as academician of Chinese Academy of Engineering in 2021.

鄔堂春，華中科技大學教授，中國工程院院士，同濟醫學院院長，湖北省科協副主席，教育部環境與健康重點實驗室主任。曾任國際細胞應激學會主席，現為中國醫師學會副會長兼公共衛生醫師分會會長、中華預防醫學會（環境衛生學會、呼吸病防控分會）副主任委員、*Environ Health Perspect*編委、《中華預防醫學雜誌》副主編等。長期從事空氣污染與健康的研究，在揭示空氣污染病因、闡明發病機制和制定預防對策等方面做出了傑出貢獻，在*JAMA*、*Nature*、*J Clin Oncol*、*Circulation*等期刊上發表論文 400餘篇，許多著名期刊（*Ca Cancer J Clin*、*JAMA*）等高度評價其研究工作，獲國家自然科學二等獎、國家科學技術進步二等獎。指導研究生1人獲全國優博、3人獲提名獎。注重把學科和科研優勢轉化為本科教學資源優勢，主持獲國家教學成果二等獎2項。先後獲得國家傑青、長江學者特聘教授、973項目、國家重點研發計劃首席科學家和基金委創新群體負責人。

Abstract 題目摘要

Air pollution and cardiopulmonary disease - evidence, mechanism, prevention and action
空氣污染與心肺疾病

Cardiopulmonary diseases are the leading causes of morbidity and mortality worldwide and are caused by the environments, genes and their interaction. There are a lot of environmental pollution from air, water, soil, and such life styles as BMI, sleep, exercise which are very common in human environments. Both short-term and long-term exposure to particular matters (particles ≤2.5 μm in aerodynamic diameter, PM2.5) is a public health concern. Humans are exposed to combustion-related fine particulate matter from multiple sources, such as ambient air pollution, household air pollution, second-hand cigarette smoke. Firstly, I will briefly introduce that the associations of outdoor air pollution with risk of cardiovascular and all-cause mortality. Secondly, I will thoroughly introduce that the associations of household air pollution from cooking and warming with risk of cardiovascular and all-cause mortality in rural and urban China, and its prevention policy. Thirdly, I will introduce the role of such DNA methylation, miRNA as epigenetics caused by coke oven emissions, particular matter, and metals in aging and acute coronary syndrome (the most severe cardiovascular disease). Fourthly, I will introduce the association of such sleep, exercise, BMI with the risk of these diseases and prevention. Finally, as human are exposed to many kinds of environmental pollution, I will report the possible application of Dongfeng-tongji cohort et al for the future study (complex exposure and outcomes) of such cardiopulmonary diseases as cardiovascular diseases and use integrated exposure–response approach to explore the potential mechanism. The work was supported by the Natural National Scientific Foundation of China [91643202 and 81390542] and the National Key Research and Development Program (2016YFC0900800)